

AMIGA

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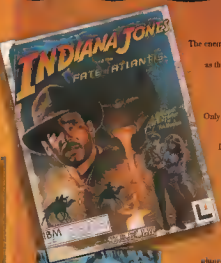
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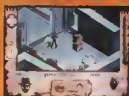
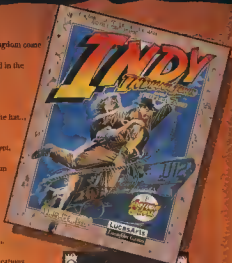
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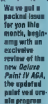
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EDITORIAL



There's a lot more an offer within these feature-packed 196 games, such as a sneak preview of the game-making new CD-ROM products on the way from Psygnosis and a look at the work of Tobias Richter, one of the premier artists currently working with the Amiga. We've even added an extra 32-page Amiga Guide to new readers can start to explore the innermost workings of the Amiga and its many new machines. I hope you enjoy it.

Before I go, I'd like to thank all our loyal readers for their continued support throughout 1992. I hope you've enjoyed the last year as much as I have, and will join me again for what promises to be a most exciting 1993. The Amiga is only going to get better and better, and we'll be there to cover every new development.

With much love and appreciation, I'd like to wish all at year a very happy and successful New Year.

If you're interested in more than just games, then this is your new-found spiritual homeland, as each issue we delve into the more serious side of Amiga computing. Here, you'll find a wealth of advice about all things Amiga, written by our team of experts. For instance, John Kennedy continues his excellent C tutorial, Bookshelf reviews the latest Amiga specific books, our Comm column checks out yet another Bulletin Board and Club Cpoints you in the right direction if you want to contact like-minded individuals in your local area.

This month, our free 32-page edition of *Amiga Guide* concentrates on those of you who are new to the Amiga and want to find out a bit more about the marvelous machine you have just purchased. Written by our very own technical editor, *Amiga Guide* aims to gently ease you in to the wonderful world of home computing. Even if you've been using an Amiga for years, there's bound to be something new to learn here, as we explore the Amiga's operating system, its hardware and software.



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GET SERIOUS

ITY REVIEW . PRODUCTIVITY REVIEWS . PRODUC

There's no let up as we get off to a flying start in the first issue of 1993. Don't miss our exclusive reviews of *V-Lab PAR*, the excellent digitiser that will now work with the A600 and A500+, *Deluxe Paint IV AGA*, Canon's new BJ200 printer and Microdeal's answer to everyone's multimedia prayers, *VideoMaster*.

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Deluxe Paint IV AGA is reviewed by Peter Lee on page 184.



VideoMaster contributes a video digitiser with a soundless installer. Amazing review on page 108.

SCREEN SCENE

ME REVIEWS . GAME REVIEWS . GAME REVIEW

With previews of *Batman*, *Soccer Kid* and *Body Blows*, we point you in the direction of the hottest games of '93. In the meantime, we also have reviews of the best games available for the festive season including *Indy 4*, *Street Fighter 2*, *Gunship 2000* and *KGB*.

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At last! It's here: *Street Fighter 2* on the Amiga and it's a brawler! Page 58



Lucasfilm's latest adventure *Indy 4* gets the CU treatment on page 66.

COVERDISKS

Our January coverdisks are absolutely packed with programs and games. Exclusive demos of *Alien* and *Walker* are backed up with a superb 3D graphics fuel! Wow.



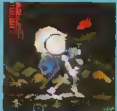
DISK 48

Working miracles once again, we've crammed a full 2-disks of commercial software onto one, and still found room for another two superb utilities, plus a neat stress-relieving card game. *Expert 4D Jnr* headlines the disk. A complete, fully functioning, professional 3D modeling and animation package, *Expert 4D* will have you sculpting, rendering and animating in a matter of minutes. With quick and easy object design features, even a complete beginner can knock up scenes at the drop of a hat and it's powerful enough to give the experienced 3D modeller scope to run riot. Also on disk you'll find a disk optimiser, to speed up all your hard and floppy disk operations, a customised replacement for the standard AmigaDos dialogue boxes, and no less than six variations on the solitary card game theme. And that's only the first disk.



DISK 49

This month's games disk is definitely our best so far, as we've got two cracking playable demos of the hottest games around. *Alien* is Acclaim's licensed conversion of the hit movie and our huge level taken from the game puts you in charge of Ripley as she has to run around the claustrophobic corridors of the prison, killing as many aliens as possible and rescuing the many prisoners who have been strung up awaiting the aliens' attention. Our other game, *Walker*, is a shoot 'em up from DMA Design, the team behind *Lemmings*. Taking control of a state-of-the-art human killing machine, it's up to you to pilot the craft around the massive play area, creaming off an entire platoon of soldiers and as much state-of-the-art hardware as possible. This is one demo you won't finish in a hurry.





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NEWS

PRO PAGE 4.0

Now shipping is the latest version of *Professional Page 4.0*. As well as providing an update for 3.0 users who experienced variable levels of difficulty using it on the A4000, the new version has many completely new features. For a start owners of the A4000 chipset machines will be able to use the new 256 colour display mode.

There will be direct Gif Tiff and EPS support with on screen previews. Previously EPS files were allowed, but were rather difficult to position accurately since no preview was generated on the screen. Along with EPS support *ProPage* can now

directly support files from Adobe Illustrator (the Mac equivalent to *Professional Draw*).

Among the more useful features are the ability to edit pages in side by side mode, and (at last) a user definable zoom between 10% and 400%.

For those of you who really need it, there is now a post it note option. Small yellow labels can be attached to the layout, to give information instructions for the bureau etc., but they will not appear on any print outs. Although this may seem terribly gimmicky, it is potentially very useful. Look out next issue for an exclusive preview.

EPSON FLATBED SCANNER

New from Epson is their GT6500 colour A4 flatbed scanner. The scanner is provided with driver software from ASDG, making it compatible with any Amiga that's equipped with enough RAM to accommodate the chosen scan sizes and resolutions. It's also supplied with a sheet-feeder for bulk OCR work, and a transparency adaptor for DTP and DTV work. The 24-bit scanner can output colour images to a resolution of 1200 DPI, and has 256 grey scales for mono artwork, OCR and CAD usage. IHB Marketing are handling the Amiga package, priced at £769 excluding VAT, and can be contacted on 0753 686600.



KID PIX

Electronic Arts are set to distribute a paint program aimed specifically at children. *Kid Pix*, developed by Broderbund, aims to take advantage of a child's natural creative impulses and harness them through an easy-to-use program that's capable of quite outstanding results. Created by Craig Hickman for his three-year old son, Ben, *Kid Pix* uses a simplified user interface loaded with fun features so that even the youngest of children can use it with ease. There are over 20 Wacky Brushes which enable the user to create elaborate drawings and special effects. There's also a talking alphabet feature which identifies a letter and then lets you incorporate it into your picture and a variety of special sound effects which accompany every brush and too. In addition, there are also over 100 'rubber' stamps to create instant pictures with, an electronic mixer capable of creating wacky screen transformations and a special eraser option.



INTERNATIONAL KARATE 2

With beat 'em ups enjoying something of a renaissance on the Amiga, thanks to US Gold's excellent conversion of *Street Fighter 2* and Team 17's forthcoming *Body Blows* game (subject of a two page in development feature in this very issue), it looks like Archer Maclean's aging classic, *Kix*, is set to be updated. Long regarded as the best beat 'em up ever produced for the Amiga, the four year old game is looking a bit dated these days. Although nothing could be confirmed as we went to press, a reliable source has it that the new game could be published by System 3, and that Archer Maclean WON'T be involved in its design or coding. Indeed, when we contacted Archer he knew nothing about the new game. We'll keep you posted.



A600/A1200 HARD DRIVES

Trilogic have announced a range of hard drives for the A600 and A1200. The IDE devices use the machines' internal drive bays, connecting with a supplied cable. The pre-formatted drives have a quoted boot up time of seven seconds on an A1200, based on tests of the 50Mb unit. All the drives come with a 12 month warranty, priced as follows: 20Mb £119.99, 40Mb £169.99, 60Mb £199.99, 80Mb £249.99, 120Mb £349.99. Trilogic can be reached on 0274 591115.

SIM CITY 2000

Maxis have just confirmed that they will be converting their long-awaited sequel of *Sim City* to the Amiga. It was tough and got far a while, but with the launch of the A1200 and the marketing push being given to the entire Amiga range by Commodore, Maxis have decided that there's life in the old machine yet. The new game, following on from the huge success of the original, is going to be absolutely enormous with more options than the *Stock Market*. The first game unveiled brought together an entire city from various customised blocks such as housing, industrial and power squares, and then keeping things ticking over as well as coping with the odd natural catastrophe or two. It's generally considered to be one of the classic games on the Amiga, and the new supercharged sequel will offer many more options as a city's entire infrastructure comes under your control. For further info, contact Maxis UK distributor Mudscape, on 0444 482545.

GAMESMASTER LIVE! SHOW IS HUGE SUCCESS

If you were lucky enough to attend the Gamesmaster Live! event at the NEC at the beginning of December, then you'll already know what a humdinger of an event it was. Sega had a huge go-kart track, Anco had a special beat-the-pace competition and Commodore had a massive games arcade with a selection of all the latest Amiga and CDTV games to play. Electronic Arts had built a huge head-to-head *Road Rash* game featuring real motorbikes and Virgo had a Quasar laser game up and running. There was late more on offer too, as the show took up time of the NEC's massive halls in all, more than 74,000 people attended the show, and plans are already being drawn up for an even bigger and better show next year.



BIG ANTI-PIRACY STRIKE

In a major anti-piracy strike, more than 3 500 illegal Amiga disks were recovered from a raid at the notorious Barrowlands market in Glasgow. An ELSPA appointed detective carried out the raid, backed up by three bodyguards and three police officers. The raid is all the more important because of the stranglehold pirates have had in Glasgow, a situation not helped by the ineffectiveness of Scottish law. Only Virgin are left as a games retailer in Glasgow as a result of the widespread pirating of disks in the area.



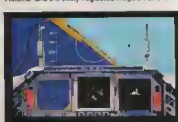
SIMPSON MANIA

Just as you thought it was safe to walk the streets again in a Bart-free zone, you're going to have to run for cover once again as the gangly youngster with the high-rise haircut is about to hit the Amiga. First up is *Bart vs The World*, which involves a treasure hunt around the globe for Bart and his family as they set out to get rich quick. Only trouble is, everyone else wants a piece of the action too, so each location is positively packed with opponents tolobber and nasties to mosh beneath your skateboard. *Bart vs The World* is due to be released by Acclaim in February '93.

At the same time, Acclaim will also be releasing *Krusty's Super Fun House* featuring Bart's favourite hero, Krusty the Clown. A huge platformer, the game's scenario involves Krusty in a mad dash around his honeycombed house trying to rid his home of an invasion of rats. With a number of deadly rat traps at his disposal, including a 20,000 volts raygun, things are made more difficult by a motley assortment of flying pigs (!), snakes and footed-up aliens. Developed by Audiogenic, *Krusty's Super Fun House* is set to appear in late February, 1993.

COMPILATION CRAZY

With the festive season almost over and Auntie Mabel's gift vouchers burning a hole in your pocket now is the time to take advantage of one of the many compilation packs that have just been released to help relieve you of your Christmas cash. Best of the bunch are two offerings from French outfit, Ubisoft. Fantastic Worlds features five classic games: Populous, golden oldie Prince of Persia, Wanderland, Realms and the sadly neglected Megamania And



JASON AND THE ARGOSTICK

Bored of playing with that old joystick-shaped joystick? Fancy something a bit different? Here's something that might appeal, Cheetha's Argostick. Modelled along the lines of the sets from the Alien films, it's intended to inject a bit of space into your gaming sessions. It's based around the classic pistol-grip design, available in two forms, the cheaper of the two is a high tactile version, selling for £12.99 while the second is microswitched and includes an autofire option, retailing at £14.99. Contact Cheetha on 0222 867777.



CANON PRINT STUDIO

For those of you who were interested in our review of the Canon Print Studio last month, the intermediate version of the program (which works exclusively with Canon printers) is now available from Jeff Walker at 75 Greatfields Drive, Uxbridge UB8 3QN. Tel: 0695 274449 for further details.

what's more, all these brilliant games can be yours for just £35.99. If strategy games are your thing, then Ubisoft's second offering is also a bit of a doozy, less turning no less than five top-notch brain-teasers. For a measly £32.99, *Spirit of Excellence*, Chessplayer 2150, the excellent Hunter, Dunderos and Populous (again) are included.

Cosan have also muscled in on the action, with two compilations based around their first Western-style WWF game. *Supa! Fighter!* features the aforementioned WWF best 'em along with *Fit Fighter* and *Final Fight* and *The Dream Team* is made up of *Terminator 2*, *Bart vs the Space Mutants* and *WWF US Gold* also have a compilation. This time concentrating on platform action. Raving Mad features *Rollerball*, *Raboo* and *MegaTens*.

Entertainment International, meanwhile, have released what they call a Combat Classics pack featuring such award-winning military fare as *F15 Strike Eagle 2*, *Team Yankee* and *688 Attack Sub*. Amiga price: £29.99. Also on offer from the Basildon-

NEWSROUND

VIRTUAL REALITY CONSOLE ON THE WAY

VR Industries, the leading Virtual Reality specialists, are reported to be developing a lightweight version of their VR helmets for use with a new home console due for release at the beginning of 1994. They are also rumored to be working on a system which will make the new helmet adaptable to almost any computer format, so the possibility exists for Amiga owners to experience VR in full hand in the very near future. More news soon.

A600 AND A1200 PRICE RISES

Due to rising chip prices, caused by Sterling's recent fall against the Dollar, from 1st January 1993 both the A600 and the A1200 packs will have their retail prices raised by £30 to £329.00 and £429.00 respectively. The rest of the Amiga range will be unaffected, remaining at their previous price levels.

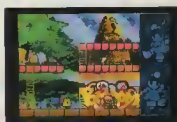
HARD DRIVE FOR CDTV

ZCL have just released the DATAPAC, a 65Mb external hard drive for the CDTV. Styled in black impact-resistant plastic, it has an internal 240 volt PSU, cooled with its own internal fan. Power and activity LEDs are included, with a pair of SCSI ports to allow chaining of additional hard drives. All the necessary connecting cables and installation software come as part of the package. The DATAPAC retails for £349.99 including VAT. Contact ZCL on 0543 414817.

WORD PROCESSING FOR KIDS

Childplay is an attempt by Helios Software to introduce word processing to kids. With the help of big bold type, colour graphics and speech synthesis, Helios aim to get the younger members of the family interested in reading, writing and computing. So flexible is the program, according to Helios, that it is suitable for anyone from 2 to 12 years! This bold claim is backed up by the promise of three types of voice for the speech, the ability to make your own picture puzzles and overlay text on graphics, plus a user-friendly interface. *Childplay* retails at £24.95 and is available from Helios on 0623 554825.

based company is another compilation pack, *Sports Masters*, which includes golfing classic, PGA Tour Golf, racing game Indianapolis 500, *Informages' Advantage* Tennis and soccer sim, *European Championship 1992*. Again, the pack costs £29.99. As they say, the choice is yours!



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IF YOU CAN'T STAND



Whilst publishing his underground comic Jack Deebs has unwittingly created a parallel universe inhabited by cartoon characters known as DOODLES. You are transported into COOL WORLD and seduced, through engaging messages, by the Doodle ramp... HOLLI. Visual jokes and gags punctuate your adventure as you hop to and fro between reality and COOL WORLD. But Hollie's dream is to shed her Doodle Identity... to become a real woman - with a real interest in Jack! Her dream could destroy both worlds. Kiss goodbye to Jack... and hello to oblivion!

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Once a
Ramp
and wa
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Watch
Match
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OCEAN SOFTWARE LIMITED, 2 CAS
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THE HEAT



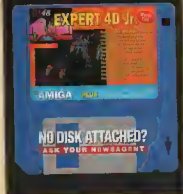
Once up! Superstars unite for the grand European Jampack: your favorites, Hulk Hogan™, Ultimate Warrior™ and many more! Across Europe in square off in the ring against the Natural Disasters™ and the Nasty Boys™. Watch the Grand Finale. Follow them in the Grand Finale Match of the Garden in New York City. Test your strength and skill: your team-mate to achieve the ultimate goal - the Euro™ Tag Team Title.



A multi-level shoot 'em up based on aspects of all three LETHAL WEAPON movies. You can choose to be either one of the two high fire-power cops... each having his individual strengths - and weaknesses! There are many missions to complete including the rescue of a kidnapped girl, the pursuit and arrest of drugs runners, finding and arresting a police murderer, plus many more. You choose the level to suit your objectives within the game-play. It's mean, fast end... LETHAL!

LETHAL WEAPON, LETHAL WEAPON 2, and LETHAL WEAPON 3 names, characters and all related indicia are trademarks of Warner Bros. Inc. TM & © 1992 Warner Bros. Inc. All Rights Reserved.

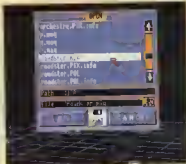
Coverdisk 48 is awash with handy utilities and even a full 3D modelling program, Expert 4D Junior, to help you design and animate 3D images. Along with that program we've given you ARQ, a helpful tool used to change all those annoying disk messages to something much more user-friendly; Re-org for optimising disks by sorting files and drawers, and finally, Card Games, for those long winter nights by the fire.



Before you can access any of the programs on Disk 48, it must be initialised. This expands the compressed data onto two raw disks, which can then be used as normal. Before you begin, make sure you have two spare write-enabled disks to hand. There's no need to format them. Once the write protect lab on your coverdisk, and back it by reading the machine. Double-click on the icon, and then on the 'EX4D1' icon, insert your first spare disk at the prompt, and replace the coverdisk when it's done. Repeat the procedure, this time clicking the 'EX4D2' icon, and inserting the second spare disk. Read and head with your first initialised disk.

COVERDISKS

EXPERT 4D junior



Double-click the 'E1' icon to load the modeller module, then load one of the demonstration objects from the second disk

WHAT'S WHAT

Expert 4D Junior is a full-featured, fully usable 3D modelling and animation program. It needs 1Mb of RAM to perform its more basic tasks, but it really likes more than that if you're using it to its full potential. Although Expert 4D Junior is very powerful, it's also rather more user-friendly than some other 3D modelling programs, so you shouldn't have too much trouble getting started. Here's a step-by-step guide to help you get going.

Once you've initialised Disk 48, you'll end up with two more disks. The first is named Expert_4D_Junior, the second is titled

Magnettes 1.3 (don't ask us why!). Insert the list of your two new disks in the internal drive, put the second disk in any other available drive if you have one, and reset the machine. After a few seconds, the computer will reboot to the Workbench screen. Double-click on the Expert_4D_Junior icon, and you'll be presented

For speed, all the objects are displayed as transparent wireframes at the modelling stage.

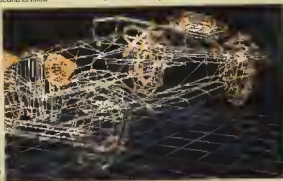
with a window containing a number of new icons. Among them are two entitled 'E1' and 'E2' - these are the two main modules of the Expert 4D system. Double-click the icon marked 'E1' to enter the object creation module.

THE MODELER

This is where all your objects begin their life. The screen starts out with just a 3D and representing the floor area for your scene. You can fill it in one of two ways: either select a 'primitive' object from the menus, or create your own from scratch with the '2D to 3D' sub-module.

For now, let's see what's possible with the modeller by loading up one of the demo files. Select 'OPEN' from the FILE menu, and a file requester will pop up, getting a directory from the main Expert 4D program disk. Bear with it, then click in the box marked PATH, and delete any text and punctuation (ignoring the misleading color that can't be deleted). Type 'd11'. [RETURN] If your second disk is in the first internal drive. If you only have a single floppy drive, remove the first disk and replace it with the second, then type 'D0'. [RETURN]

Either way, you should now have a directory listing of the Expert 4D demo disk. Select any file that has a '.meq' extension, and click on the OKAY

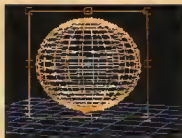




Clear the scene and you can start on your own creations. After selecting a 'primitive' object from the menus, you need to define the resolution of the mesh. In other words, the number of points and lines that it is made up from.



Here's a sphere with a low-rated mesh. As you can see, it doesn't look very round, but lower rates mean faster rendering and more available memory.



On the other hand, a sphere with a high-rated mesh also looks a lot more realistic, and the results are worth the expense of time and memory.

button. You should now see your selected object drawn out in wireframe 3D. At this stage, you won't see it fully rendered (drawn in light sources, colour), because this is only the design module. You could go straight to the rendering module, and render one of the demo objects, but as the rendering process takes quite a while, it's probably best to knock up a few objects of your own while you're in the modeller screen.

PRIMITIVES

Before you start building objects yourself, go up to the PROJECT menu and select NEW. This will clear the scene, ready for your impending masterpiece.

There are two ways you can build objects. The first method is to use the basic blocks available from the menu, which are known as primitives. These include cubes, spheres, two-dimensional planes, disks and so on. Select one of these from the MODELLING menu and you'll be asked to define its 'mesh'. This is the number of points and lines the object will be made up from. A sphere with a low rated mesh will look more like a diamond, but with a high rated mesh the curves are far more convincing. The advantage of using a lower rated mesh is that you save memory, and you also save time when you come to render your objects.

2D to 3D

The alternative to the primitives is to use the '2D -> 3D' option from the MODELING menu. You can

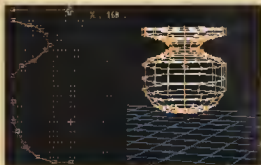
now draw out a 2D plan of your object by clicking on the grid with the left mouse button. Let's have a go at making a vase, using the very useful SPIN option.

1. Select '2D -> 3D' from the MODELLING menu.
2. Move the mouse pointer to about an inch below the central position marker.
3. Click the left mouse button once, and move two or three dots to the left, before clicking again.
4. Continue to trace the profile of a vase, as shown in the screenshot, remembering to just draw half of the outline, stopping at the top. Do not join the start and end points of the outline.
5. Double-click on the last point to exit draw mode.
6. Move up to the 3D menu and select EXTRUDE/SPIN.
7. Use the sliders to select the density of the mesh for your vase.
8. The view will have now jumped back to the 3D scene, where your beautiful vase is on show in glorious vector-vision.

INTERIOR DESIGN

So you've got yourself a wireframe vase. What are you going to do with it now? At the moment, it doesn't have any colour or texture assigned to it, so the first thing is to sort this out from the ATTRIBUTE menu. Once you've done that, you can drag it into the corner of your room, and set about designing the rest of your scene.

Objects such as tables and chairs are better constructed from the primitives. Choose a cube from the available blocks, and scale it by clicking



For left: An alternative method of creating objects is to use the '2D -> 3D' option. Draw a profile of a vase, and use the SPIN option. Left: And here it is in its three-dimensional form.

on the small boxes that sit on the surrounding highlight. Drag these with the mouse to scale it in the X, Y, or Z axes. Using the JOIN function from the MODELLER menu, combine various shapes and sizes of cuboids and spheres until you come up with something you're fairly happy with. Once you've got a scene all set up, save it out with the SAVE

option from the FILE menu. It's best to save it to a pre-formatted blank disk, but there's a bit of space left on the second disk if you don't have one to hand.

Now it's a time to render your scene in full light-sourced colour. Exit the modeller program, and load the E2 module by double-clicking its icon.

Unlike the modeller, the rendering stage can't be menu-driven. Instead, it's all worked by a small collection of buttons. Click on FILE to open an animation or scene. Wait until the drive light goes out, and then insert the disk with your scene on it. Click in the PATH box, delete all the text, and type 'DFO [RETURN]'. You should now see your file appear in the requester box. Click on it, and then on the OKAY button.

You'll now be back on the main screen. From here you can choose how you want your scene rendered. Bearing in mind that a full size HAM screen can take up to around three hours to render, you might like to make a few test runs first with the lowest grade modes. There are three main parameters that define the quality and speed of the rendering:

First is the type of render: wireframe, polygon, or pixel. Wireframe mode displays the scene as is in the modeller; polygon adds hidden line removal and basic colouring, and pixel renders the scene with proper light-sourced colour. Next, there's the resolution, which can be low, medium or high, and HAM mode can be toggled on and off. Finally, there's the size of the image. This can be the size of a postage stamp (not much good for anything but very simple objects), quarter screen size, full screen or overscan.

After you've done a few test renders, click the RECORD button, and select the rendering modes you want for the final picture. Then click on OKAY, and your image will be rendered, then saved to disk as an IFF file. Remember that it can take a matter of hours to render a scene, so don't think you've crashed the machine if nothing seems to be happening.

After it's all done, you can load your IFF picture file into any art package, such as Deluxe Paint. Next month, we'll move on to animation and more advanced modelling techniques.

In the unlikely event of your CU Amiga overflowing out loading, remove all our bridges and peripherals, double check that you've followed the instructions exactly, and try again. If they still won't work, pay our attending clerk in an envelope and send them to: CU DISK RETURNS, PC WISE, BOX 140, BUSINESS PARK, MONTHLY TOLL, MID-GLAMORGAN, CF40 2TY. They will then test your disk and send a replacement as soon as possible. For any urgent problems though, please ring the PC Wise helpline on 0885 358585. This line can be reached between the hours of 10.30 and 12.30 weekdays. Whilst CU Amiga makes every effort to check our computers for all known viruses, we can accept no responsibility for possible damage caused by viruses which may have escaped our attention.



take on the tiles?

Original
SCRABBLE
 THE WORLD'S LEADING WORD GAME

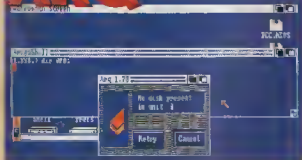
THE HOME COMPETITION FROM
HIGGOLD

U.S. GOLD

GOLD PHONE

[illegible]

ARQ



Please replace volume. Empty in any drive. 'Disk not validated...' 'No disk in unit 020:'. Those irritating messages buzzing around your head all night long - it can't be doing you any good. As if

that wasn't bad enough, you're forced to click on a box marked

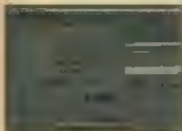
'OKay' just to get rid of the bloody things. Well it is not okay! We want to click on boxes marked 'P'iss off', 'Go away!', 'Shut up!', 'I don't care!', and 'I know you've told me 300 times already!' In fact, what we need is a copy of ARQ.

Very ARQ is intended to be incorporated into the start up sequence on your Workbench disk or hard

drive. This involves copying the files ARQ and EXPLODE LIBRARY into the C: and LIBS: directories respectively and editing the file

RUN-NIL.ARG just before the LOADWB command at the end of your start-up sequence. For further details on editing your start-up sequence, consult your AmigaDOS manual.

As it stands, you can't run ARQ directly from the coverdisk, but you can access the doc files. Open the ARQ drawer, and double-click the ARQ.doc and CHANGES icons for all the technical details, which will tell you how to tag your own samples onto the dialogue boxes, thus giving your machine the ability to ask you very politely 'Could you please use your way clear to inserting that other disk when you're ready or?', or make any other sound that you care to sample. Even if you ignore the sound features, you'll still have nice new dialogue boxes that don't pop up right in the corner of the screen, some of which even include little animations! How pleasant.



re-org

(2.04 ROM or higher) Do you ever wonder why loading files and directories takes so much longer with some disks than others? The reason for this is data fragmentation. If you're working on a file, updating it every now and then, adding extra files to the disk, and deleting old files to make way for new ones, the data will gradually become a mess of little blocks scattered across the whole disk.

Re-Orp cunningly re-organises all the data on floppy and hard disks, so that the files are stored as continuous blocks. It also sorts out the directory list, speeding up the DIR and LIST commands, as well as directory listings from within any applications. Unfortunately, you need a 2.04 or higher version of Kickstart to run it, as found on the A600, A1200, A3000 and A4000.

WARNING: BACK-UP ANY DISKS BEFORE YOU OPTIMISE THEM. You shouldn't have any problems with Re-Orp mashing your disks, but circumstances beyond the program's control (such as power cuts or surges for example) can leave you with a dead disk, so make sure you work on a copy, not the original.

Double click the Re-Orp drawer, followed by the Re-Orp program icon. Once it's loaded, you can customise the program to suit your preferences. For a better understanding of how the optimisation works, activate the GRAPHICAL SECTOR DISPLAY by clicking its box. It's also a

good idea to click the ENABLE WRITE VERIFY box, so that your optimised files are checked as they are written.

When it comes to optimising a disk, there are two modes. The first, for single-drive users, reads in the data and writes it back in an optimised form to the same disk. This is the more risky mode of the two, but it's the only option if you don't have an extra disk drive. If you're using more than one drive, you can benefit from the second mode. This reads from one drive, and writes the optimised data to a fresh disk in another drive. This is safer, as it's not writing over any of your original data. Select your chosen mode with the circular arrow gadget beneath the list of available devices, and define your input and output drives if you go for the second mode.

Click on START, and away you go. Floppies will usually take around 1-2 minutes to optimise. Depending on the capacity, hard disks can take anything up to 15 or 20 minutes. Accelerated processors speed up the operation.



card games



This is a collection of six solitaire style card games. To load them, double-click the CARD GAMES drawer, followed by the CARD GAMES program icon. They're all controlled with the mouse in the same way. Click on the card you

want to move, and then click again on the spot you want it moved to. The games included are Pyramid, Golf, Klondike, Corners, Calculation and Ginfield. You can choose to play anyone of them by selecting them from the title-screen menu, or play the Grand Tour, which gives you all six in sequence, accumulating your score as a running total.

For details on the rules of each game, consult the DOC files in the CARD GAMES drawer.

COVERDISKS

Roll up! Roll up! See the amazing CU coverdisk. Without a doubt the best ever. This month we've dug deep into our deep things, soared to the heights of our soary things and brought you two fully playable demos of *Alien 3* and *Walker*. Two soon-to-be smash hits. We've gotten together with their publishers, Acclaim and Psygnosis respectively, to give you the first levels to both games – what more could you ask for. So, get your trigger fingers twitching and off you go.



NO DISK ATTACHED?
ASK YOUR NEWSAGENT



In this all action shoot 'em up from Acclaim, inspired by the latest film about everyone's favourite extra terrestrials, even Ripley's roping muscles are put to the test. The object of the game is to escape from a prison colony crawling with bloodthirsty slime-dripping alien monsters. It's not quite as straightforward as that, however, as the prisoners must first be rescued from the various walls to which the aliens have stuck them – and guess who's got to do that!

Ripley, the character played by Sigourney Weaver in the film, 'rescues the prisoners by moving on to the space they occupy. They look somewhat, er, dead, by the time she's res-



In the top left of the screen is your score and beside this a picture of the weapon currently in use (together with a figure indicating its remaining number of uses).

A movement sensor is displayed in the box in the top right of your screen. Flashing on this indicates the forms either alien or alien-killing (prisoners) and that your ship arrives in Ripley.



What the scanner is good for locating prisoners, the Aliens are so fast it's usually best to rely on your eyes when watching out for them.

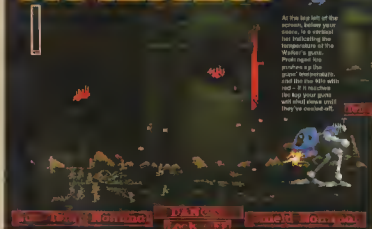
READING YOUR DISKS To load Coverdisk 49, just insert it in your Amiga's drive and push on. (With second disks with pay-as-you-go disks, just position the cursor on the one you want to use and click with the left mouse button.) Otherwise into the demo will be ready to play, as long as your Amiga has at least 1Mb of memory. If you have difficulty loading your disk please contact PC World at the address or telephone number given on page 14.



cued them, but perhaps they were just collapsing with relief, so let's gloss over that. What stands between Ripley and the prisoners? Aliens, of course.

mission. Sha's far from indestructible, however, so bear in mind how far she'll drop and what she might land on when jumping. There are many

WALKER



In most shoot 'em ups you get to play the little guy, a heroic David struggling to overcome or evade hulking great Goliaths intent on squashing you underfoot. Now, in this game from Psygnosis, the boat is on the other foot: Commanding a huge walking gun platform (rather like the ones used by the Empire against the Ewoks in *Return of the Jedi*), you advance to the left, across the scrolling screen, hammering hordes of Liliputian adversaries who cross your path.

The Walker's opponents may be small, but they're determined and well-armed. They're as well as well so watch out for the missile firing, absorbing bomb-planting, strafing impediments which will be hurled against you. They'll keep fighting until you squash them too - so have no mercy (it's a hard world in computer games)! You won't feel so sorry for them once your defensive shield has been worn away leaving nothing and you've become a fitting old warrior! **click**

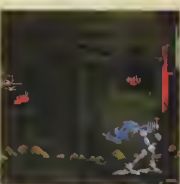
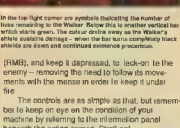
How do you fight? The controls for Walker are easily mastered, although they're slightly unusual for a shoot 'em up, so follow closely:

- The Walker moves forwards and backwards (left and right) according to whether you press the right or left (red/green cursor arrow keys).

A large cross-hair appears on the screen, representing the point upon which the Walker's gnarled eyes are targeted. Press the left mouse button (LMB) and all its gurs will fire upon the area. Move the cross-hair with the mouse to change target. The Walker cannot turn around, so you'll find that it cannot aim at opponents behind it — watch out for that.

• Once your guns are trained upon a suitable target, press the right mouse button

Along the bottom of the screen are three man-
ages: can regenerate at
the bottom left, which
condition at bottom right.
In the middle appears a
warning of imminent de-
cay, or the all-clear if the
Walker has swept the cur-
rent screen of his
enemies. Below this is a
notice about the status of
the lock-on - either it is
off, or it has a mode, a range



SCHOOL'S

IN

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For the under 5's



FUN SCHOOL 4
For 5 to 7 year olds



FUN SCHOOL 4
For 7 to 11 year olds.



FUN SCHOOL SPECIALS
Paint and Create
5 year olds and over



FUN SCHOOL SPECIALS
Merlin's Maths
For 7 to 11 year olds

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For 11 to 15 year olds



ADI FRENCH
For 11 to 15 year olds



ADI MATHS
For 11 to 15 year olds



ADI JUNIOR COUNTING
For 4 to 7 year olds



With a new year just beginning, CU Amiga takes a peak into the future and looks at what might be happening to your Amiga one, two or even three years from now.

STATE OF COMDEX

ALL SYSTEMS GO

The Amiga has certainly had a good year, even despite the middle over which machine you should buy (there were at least two similar models in the shops at once during some stages of the year). Still, there were launches, there were breakthroughs, there were completely new chipsets and Kickstarts, and there were even record sales. There's all very well, but what can we expect this year, or even next year? What lurks over the temporal horizon?

Well, as is technology's perpetual promise, the future is here today. At the trade shows and conventions all around the globe, the future is on preview now. Emergent technology is what the jargonists like to label it. We like to call it 'new developments', because then people understand what we are talking about. So, in a fit of fraudulent expense account claims, we sent Nick Veitch and Mal Bromfield to two of the biggest computer shows of the year to come face-to-face with the future of Amiga computing. Here's their up, and indeed, past the minute guide to what the Amiga will one day become.

1992 AND ALL THAT

As '92 fades away and a new year beckons, CU Amiga takes a look back at what proved to be quite an extraordinary 12 months.

Who would have thought, at the beginning of '92 that we were in for such a white-knuckle ride thanks to the constant inventiveness and darting unpredictability of Commodore UK. Just as the world was becoming accustomed to the A500 Plus, launched at the end of '91, Commodore surprised everyone with the unveiling of the A600, the A570 CD-Rom drive and, towards the end of the year, the superlative A1200 and top-of-the-range A4000. Third-party manufacturers were also busy flooding the market with a succession of new products to increase the computing power of your Amiga. Whether it was a superfast hard drive, video digitiser, sound sampler or memory upgrade, it was hard to keep up with the endless

tidal wave of innovation and creativity that threatened to engulf us all.

And as if all this wasn't enough, Amiga software just kept on getting better. Whether you were a gamesplayer, hobbyist or enthusiast, there's no denying the vast number of quality programs that were released during the course of the year. From Project X to Pro page 3.0, there was something for everyone and every interest. So here, for your delectation and delight, is a month-by-month guide to the year just gone.

JANUARY

- After the Maxwell scandal forced the closure of Mimossoft, the rest of the industry fell over themselves in the mad scramble to sign up the many abandoned projects. Amongst such gems to be snatched up were Sensible Soccer and Fire & Ice (both want to Renegade). Reach for the Skies (Virgin) and TV Sports Baseball (Mindscape).
- The first rumours of the A4000 began to emerge plus much press speculation about an Amiga console with special spite-enlarging and scrolling chips. This latter project



has now metamorphosed into the GDTV console we exclusively revealed last issue. Expect it sometime before the summer.

- Gamesmaster began its first TV series on Channel 4 and was an instant hit, attracting a regular weekly audience of three million.
- Nintendo announced a deal with Mindscape which should see their most famous character, the Italian plumber, Mario, make his Amiga debut in an 'edutainment' product sometime in 1993.

FEBRUARY

- Computer and video games continued to defy the recession and the Daily Mirror started a regular weekly games page.
- Special FX announced they were going it alone, after years of working with Ocean. A few months later they were to release their last game, Striker, to much public acclaim.
- CU had a special feature on Arcane Design, widely tipped to be a creative force within the industry. A year later, and we're still waiting for their first game to appear.



Things to COME

In the world of 'serious' computing, Comdex is probably the single greatest show of the year. With 11,800 stands split between five massive conference centres in central Las Vegas, it's certainly the largest and although the show is almost exclusively devoted to PCs, networks and other business systems the Amiga did put in a significant showing.

SMART SPECULATION

Comdex was split into five major categories: Network Computing, Multimedia Showcases, Mobile Computing, Imaging and OEM Business. In the Las Vegas Hilton were PCMCIA, a California based company, who were busy co-ordinating a major display of PCMCIA peripherals. For those of you who are unfamiliar with the term, PCMCIA is the abbreviation given to 'Smart Cards' which, although only the size of a credit card, contain a microcassette circuitry which can be used for a whole variety of serious applications. Originally developed for portable PCs, PCMCIA slots are present on both the A600 and the A1200, leading many pundits to speculate about the potential usefulness of such an expansion capability.

Judging by the firms on offer at Comdex, the

future is very bright indeed. Maxell were showing eight and 16-bit RAM cards ranging in capacity from 512K to a whopping 16 megabytes. And all on a single card small enough to fit into your wallet! Continuing the storage theme, there was a veritable flood of manufacturers demonstrating PCMCIA hard drives. Of these, the 1.8 inch, 42.5 meg drive from Raneer was a good example. Incidentally, the entire drive measures less than half an inch thick and weighs a negligible 2.75 ounces.

Also of great interest were the miniature Fax and modem cards, of which the most impressive was the FediCard, a combined fax and modem capable of transmission at up to 14,400 baud. If these represent the future of Amiga computing, then we're in for a great time indeed. By including PCMCIA slots on their more recent machines, perhaps Commodore are already setting the scene for a truly portable Amiga?

COMMODORE AND PALS

Talking of Commodore, they were to be found in the Multi-media hall where they had a modelately small display area. Although they were displaying their A1200 and A4000 machines, most of the stand was occupied by companies that they'd invited to turn up. Certainly there were with a very impressive Opal Vision demonstration, but this was somewhat occluded by DMI's Vivid 24 and Digital Edimaster boards for the 2000 and 3000 range of Amigas. The 68040 based Vivid 24 is clearly designed as a head-to-head rival for Video Toaster, with its 24-bit rendering and display tools. It has an eight bit alpha channel for performing

video effects and can render a stunning 100,000 24-bit coloured shaded polygons every second in resolutions as high as 2048x2048 pixels. Designed for professional broadcast use, at its highest configuration the board can evaluate up to 160 MILLION floating point operations per second (FLOPS). Compare this to an A3000's 4 million FLOPS and you begin to get some inkling of the awesome power of the board. At more than 12,000 dollars, the board doesn't come cheap, but in terms of its power to price ratio, it's 14 times cheaper than an A3000. It compares even more favourably against the Silicon Graphics machines, which have, for too long, been among the industry standards for this kind of work.

The Digital Edimaster board brings similarly impressive specs to the arena of video editing and animation. Using full UPEO hardware compression, the board can capture any video images in 24-bit real time, compressing them before storing them on hard drive. These frames can then be sequenced and edited at your leisure before re-rendering them to video tape. At 100 to 1 compression, recording video quality images, over five minutes of animation can be recorded to a 100 megabyte drive. The system works in both PAL and NTSC so, once recorded, images can easily be converted from one system to the other. Again, the system is not a toy, costing \$2495, but it offers features which can usually only be found in video editing suites worth upwards of \$10,000!

MASS MEDIA

DMI were also showing their SCSI compatible

• John Madden was released, the very first Megadrive game to be converted for the Amiga. CU had the exclusive playable demo on the coverdisk.

MARCH

• Not a lot happened this month. Perhaps the industry was still reeling from the announcement that Mr. Punctuality himself, Nick Veitch, had been appointed Tech Ed on CU Amiga. Then again, perhaps they were too busy having a laugh at our expense.

• P. P. Penguin biscuits took over sponsorship of the games software charts.

• Pausol Stars, the follow-up to the best-selling Rainbow Islands, was finally released and was rewarded with a 95% review.

• We also took a first look at Zool, in a three-page in-development feature. The game was destined to top the charts later in the year.



APRIL

• Kansas-based Newel Technology was forced to abandon their portable Amiga prototype.

Commodore refused to grant them a remanufacture license for the Amiga custom chips when they, in turn, were denied access rights to the new machine's design.

• The trade press finally picked up on the runaway success of Team 17, as CU Amiga awarded Project X a whopping grant 92% for being the best Amiga shoot 'em up ever.

• Pro Page 3.0 was released by Gold Disk, and hailed as the premier DTP tool for the Amiga.

• Philip's CD-i system, a rival to Commodore's CDTV, went on sale to a fanfare of publicity. Nothing much has been heard of it since.

• Zero magazine was banned from WH Smiths and Muzies for featuring a Cover Girl Pokes playable demo on its coverdisk.

• Psychosis signed up Dungeon Master creators, FTL, in an exclusive deal.

• Den Slingsby was promoted to editor of CU Amiga Hurrah!

MAY

• CU got a new lick of paint, a be of a redesign ended moved up to American A4 size.

• Electronic Zoo closed. No one was really sur-



prised at this, except for Electronic Zoo themselves. After all, a company responsible for the completely awful Germ Crazy and the hideously wasted Magic Garden deserved to go under.

• Amiga Centre Scotland, home of the much vaunted Harlequin 24-bit graphics card, closed its Edinburgh-based shop.

to concentrate on R&D.

• In-game advertisements began to appear in computer games, thanks to the inventive strategy of Micro-Time Media. Robocod featured Penguin bars and Monoprice Grand Prix Inducted.

Duckhorn Oil billboards.

• Maxis abandoned its links with Ocean and moved to Mindscape. Look out for Slim City 2000 in '93!

• CU Amiga published an exclusive picture of free-lancer Rick Heynes taking a bath and received a flood of outraged complaints. This was not because of Rick's spectacular ugliness, but because we continued to let him write for us.



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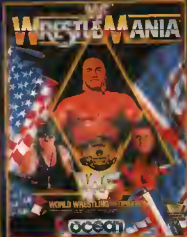
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THE BEST COMPILATION OF ALL TIME



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THE THREE BEST SELLERS OF 1991-1992 ALL REACHING NUMBER ONE THROUGHOUT THE YEAR

IBM PC • AMIGA
ATARI ST
COMMODORE 64
AMSTRAD
SPECTRUM



OCEAN SOFTWARE LIMITED • 2 CASTLE STREET • CASTLEFIELD • MANCHESTER • M3 4LZ • TELEPHONE: 061 832 6633 • FAX: 061 834 0650

Optical disk drives. The drive functions like a hybrid floppy and hard drive combo. It uses removable disks capable of storing 20 MBos of data, and which cost \$20 each (currently about \$13.50). These drives can be fitted internally in A1500s upwards, or can be used externally with the A500. At only \$449.00 for the external model (about \$290), they compare extremely favorably with conventional hard drives.

In the music media stakes, Groovelec were demonstrating VidiDisc, an interactive CD authoring system capable of handling 64,000 colour stills (or partial motion video frames), and synchronising these with multiple language digital audio tracks (sound samples to you and me!).

They were demonstrating this system with a touch-screen monitor whereby the user could wander around an art gallery looking at the exhibits and zooming in on particular paintings at will. They also showed how the system is already being implemented by a number of major companies including American grocery giant K Mart.

On a less interactive note, TV production company Bethesda Mittell were demonstrating the Amiga system used to produce an American kid's program called 'Nick Arcade'. With 42 shows being recorded yearly at the rate of five per day, their previous computer system could no longer cope, yet with the Amiga the work of over half a dozen people was reduced to a dozen key-strokes which could be activated by even non-technical personnel. The system—known as 'Nickelodeon'—activates animation, video footage, sound samples and a host of production functions, and mixes them seamlessly with real time filmed events.

Returning to the other Comdex halls, Input and output technology was very much in evidence with Hewlett Packard and Canon both demonstrating their new 600DPI laser printers, and a number of installers showing their versions. Canon employed the services of a top Las Vegas card shark to draw our attention to their new low noise dot matrix printers. Despite the fact that they use 24 pin technology to produce full colour output, they only

produce between 43 and 46.5 decibels of noise—quite a little from some bubble jets and most lasers. Talking about colors printing, it seems that this word is out and everyone's trying to get in on the act. It is not enough to simply print in colour, we want lots of colours, high resolution and a low price. Canon (who also released the BJ-200 as a worthy follow up to their BJ-100x) did their best to impress with the CJ 10, a colour copier and printer, but for my vote Brother's Hot Mel Ink Jet Printer took the prize for sheer image quality. It wasn't just that the images were attractive, but they had an embossed feel that lent them real class. Mind you, at \$995 they're pretty well way off in the affordability stakes!

TOYS R US

Don't get the impression that the show was all work, work, work though. Aside from the innumerable table slideshows, competitions, giveaways and spectator events, there were a few fun products on offer, such as Tardis Technology's Voice Trek, a voice recognition system that lets PC users control their computers verbally (of course, this has been available on the Amiga for some time). What about Galiza's portable computer cases—the tinestcase equivalent of Inspector Gadget's arm, or Batman's utility belt. Tardis like, these cases just keep on revealing new hidden ways to produce the ultimate in portable transportation! Or how about Laserex Laser Pointer? The ideal gift for the lecturer who has everything, in a pen sized unit it simply lets you project a red laser dot anywhere you like!

However, the ultimate in executive toys had to be the Mouse Arena from Formico. This amazing mechanical computer complex with leather palm supports, spring-loaded control system and Tylon (whatever that is?) coated tracking surface to ensure that your mouse never gets dirty or clogged up!

COLOGNE

The Cologne Amiga show is a good forum for showcasing the very best in European software and hardware advances. And, true to form, this year's show had a wealth of amazing new products on show for the very first time.

SMALL IS BEAUTIFUL

Macro Systems are a prime mover in the German marketplace, and will no doubt be soon making inroads into this country. With hardware in the form of a Lab Digistar (latest model reviewed this month) and the appearance of their blitzkrieg II in heavily computer-

On display at the Cologne show recently was the second flank of their two pronged assault. Call it Maestro, the latest product is a 16-bit spreadsheet. This is not such a departure from the group's other things as it may at first appear. In fact the spreadsheet and graphics capabilities are very similar, plus the main engine of the hardware is a last analogue to digital converter (known as a DAC) which doesn't really care whether the data it is processing



• Monkey Island 2 finally arrived, to yet another explosive review and garnered a well-deserved 95%.

• Westwood, the team

behind Eye of the Beholder 1 & 2, were bought out by Virgin. Their first game for Virgin, Legends of Kyriaand, has just been released.

• Commodore celebrated the 1,000,000th sale of an Amiga computer in the UK with a special competition for one lucky person to win 600 computer games.

• The Commodore-approved repair centre run by FMG closed its doors and caused great concern to the many Amiga users whose machines were in for repair. Fortunately, Commodore road to the rescue and carried all the machines off in the back of a fleet of lorries.

• Probe Software announced they were abandoning the Amiga in favour of the console market.

• A500 production ceased. Sob, sniffle.

• Our July coverdisk featured OctaMED Professional V3.0. We have been inundated with their tunes ever since. 950 at the last count!

• We took a look at Voyager: a superb astronomy package that tracks each and every planet and star known to man (well, almost).

AUGUST

• Steve Frankfurt stepped down as head of Commodore UK to take charge of CDTV. After five years in the hot seat, during which sales of the Amiga passed one million, the burly big man decided he wanted a new challenge. And boy, did he get one!

• The CDTV finally appeared in a special multimedia pack that included a keyboard, disc drive and mouse. Commodore even started to refer to it as Amiga CDTV. Up until this point they had tried their best to distance the machine from their successful Amiga-range of computers.

• Long-time CDTV game reviewers, Steve Marriott and Steve Keen, moved on to pastures new. Steve Marriott joined sister magazine, NMS, as deputy editor and Steve Keen joined the staff of CAVG.



SEPTEMBER



• MovieSetter adorned our September coverdisk, as used by Eric Schwartz and other leading Amiga animators.

• Nick Vetch adorned the cover of CUI Amiga, but that was okay as he

was safely hidden from view behind a welding mask as he sat atop an A500 with an acetylene blowtorch. The reason for this strange behaviour? The launch of a regular DIY feature in the magazine which strangely has never reappeared. Perhaps in the new year...

• Our Kick Off 3 scratch card offer was a resounding blowtorch. With 10,000 entries. A pity, then, that the game has now been delayed until well into the new year.

• Also on our coverdisks was POD, a Shaun Southern conversion of a classic 8-bit blaster. Unfortunately, ELSPA didn't take too kindly to this and promptly banned us from featuring any more such conversions. Boo! Hiss!

• Electronic Arts lapsed its buying waffle and bought up Onym, the company behind the Ultima games and Wrig Commander.

• Zero ceased publication.

JULY

STREET Professional 9.011-9.012-9.013-9.014-9.015-9.016-9.017-9.018-9.019-9.020-9.021-9.022-9.023-9.024-9.025-9.026-9.027-9.028-9.029-9.030-9.031-9.032-9.033-9.034-9.035-9.036-9.037-9.038-9.039-9.040-9.041-9.042-9.043-9.044-9.045-9.046-9.047-9.048-9.049-9.050-9.051-9.052-9.053-9.054-9.055-9.056-9.057-9.058-9.059-9.060-9.061-9.062-9.063-9.064-9.065-9.066-9.067-9.068-9.069-9.070-9.071-9.072-9.073-9.074-9.075-9.076-9.077-9.078-9.079-9.080-9.081-9.082-9.083-9.084-9.085-9.086-9.087-9.088-9.089-9.090-9.091-9.092-9.093-9.094-9.095-9.096-9.097-9.098-9.099-9.100-9.101-9.102-9.103-9.104-9.105-9.106-9.107-9.108-9.109-9.110-9.111-9.112-9.113-9.114-9.115-9.116-9.117-9.118-9.119-9.120-9.121-9.122-9.123-9.124-9.125-9.126-9.127-9.128-9.129-9.130-9.131-9.132-9.133-9.134-9.135-9.136-9.137-9.138-9.139-9.140-9.141-9.142-9.143-9.144-9.145-9.146-9.147-9.148-9.149-9.150-9.151-9.152-9.153-9.154-9.155-9.156-9.157-9.158-9.159-9.160-9.161-9.162-9.163-9.164-9.165-9.166-9.167-9.168-9.169-9.170-9.171-9.172-9.173-9.174-9.175-9.176-9.177-9.178-9.179-9.180-9.181-9.182-9.183-9.184-9.185-9.186-9.187-9.188-9.189-9.190-9.191-9.192-9.193-9.194-9.195-9.196-9.197-9.198-9.199-9.200-9.201-9.202-9.203-9.204-9.205-9.206-9.207-9.208-9.209-9.210-9.211-9.212-9.213-9.214-9.215-9.216-9.217-9.218-9.219-9.220-9.221-9.222-9.223-9.224-9.225-9.226-9.227-9.228-9.229-9.230-9.231-9.232-9.233-9.234-9.235-9.236-9.237-9.238-9.239-9.240-9.241-9.242-9.243-9.244-9.245-9.246-9.247-9.248-9.249-9.250-9.251-9.252-9.253-9.254-9.255-9.256-9.257-9.258-9.259-9.260-9.261-9.262-9.263-9.264-9.265-9.266-9.267-9.268-9.269-9.270-9.271-9.272-9.273-9.274-9.275-9.276-9.277-9.278-9.279-9.280-9.281-9.282-9.283-9.284-9.285-9.286-9.287-9.288-9.289-9.290-9.291-9.292-9.293-9.294-9.295-9.296-9.297-9.298-9.299-9.300-9.301-9.302-9.303-9.304-9.305-9.306-9.307-9.308-9.309-9.310-9.311-9.312-9.313-9.314-9.315-9.316-9.317-9.318-9.319-9.320-9.321-9.322-9.323-9.324-9.325-9.326-9.327-9.328-9.329-9.330-9.331-9.332-9.333-9.334-9.335-9.336-9.337-9.338-9.339-9.340-9.341-9.342-9.343-9.344-9.345-9.346-9.347-9.348-9.349-9.350-9.351-9.352-9.353-9.354-9.355-9.356-9.357-9.358-9.359-9.360-9.361-9.362-9.363-9.364-9.365-9.366-9.367-9.368-9.369-9.370-9.371-9.372-9.373-9.374-9.375-9.376-9.377-9.378-9.379-9.380-9.381-9.382-9.383-9.384-9.385-9.386-9.387-9.388-9.389-9.390-9.391-9.392-9.393-9.394-9.395-9.396-9.397-9.398-9.399-9.400-9.401-9.402-9.403-9.404-9.405-9.406-9.407-9.408-9.409-9.410-9.411-9.412-9.413-9.414-9.415-9.416-9.417-9.418-9.419-9.420-9.421-9.422-9.423-9.424-9.425-9.426-9.427-9.428-9.429-9.430-9.431-9.432-9.433-9.434-9.435-9.436-9.437-9.438-9.439-9.440-9.441-9.442-9.443-9.444-9.445-9.446-9.447-9.448-9.449-9.450-9.451-9.452-9.453-9.454-9.455-9.456-9.457-9.458-9.459-9.460-9.461-9.462-9.463-9.464-9.465-9.466-9.467-9.468-9.469-9.470-9.471-9.472-9.473-9.474-9.475-9.476-9.477-9.478-9.479-9.480-9.481-9.482-9.483-9.484-9.485-9.486-9.487-9.488-9.489-9.490-9.491-9.492-9.493-9.494-9.495-9.496-9.497-9.498-9.499-9.500-9.501-9.502-9.503-9.504-9.505-9.506-9.507-9.508-9.509-9.510-9.511-9.512-9.513-9.514-9.515-9.516-9.517-9.518-9.519-9.520-9.521-9.522-9.523-9.524-9.525-9.526-9.527-9.528-9.529-9.530-9.531-9.532-9.533-9.534-9.535-9.536-9.537-9.538-9.539-9.540-9.541-9.542-9.543-9.544-9.545-9.546-9.547-9.548-9.549-9.550-9.551-9.552-9.553-9.554-9.555-9.556-9.557-9.558-9.559-9.560-9.561-9.562-9.563-9.564-9.565-9.566-9.567-9.568-9.569-9.570-9.571-9.572-9.573-9.574-9.575-9.576-9.577-9.578-9.579-9.580-9.581-9.582-9.583-9.584-9.585-9.586-9.587-9.588-9.589-9.590-9.591-9.592-9.593-9.594-9.595-9.596-9.597-9.598-9.599-9.600-9.601-9.602-9.603-9.604-9.605-9.606-9.607-9.608-9.609-9.610-9.611-9.612-9.613-9.614-9.615-9.616-9.617-9.618-9.619-9.620-9.621-9.622-9.623-9.624-9.625-9.626-9.627-9.628-9.629-9.630-9.631-9.632-9.633-9.634-9.635-9.636-9.637-9.638-9.639-9.640-9.641-9.642-9.643-9.644-9.645-9.646-9.647-9.648-9.649-9.650-9.651-9.652-9.653-9.654-9.655-9.656-9.657-9.658-9.659-9.660-9.661-9.662-9.663-9.664-9.665-9.666-9.667-9.668-9.669-9.670-9.671-9.672-9.673-9.674-9.675-9.676-9.677-9.678-9.679-9.680-9.681-9.682-9.683-9.684-9.685-9.686-9.687-9.688-9.689-9.690-9.691-9.692-9.693-9.694-9.695-9.696-9.697-9.698-9.699-9.700-9.701-9.702-9.703-9.704-9.705-9.706-9.707-9.708-9.709-9.710-9.711-9.712-9.713-9.714-9.715-9.716-9.717-9.718-9.719-9.720-9.721-9.722-9.723-9.724-9.725-9.726-9.727-9.728-9.729-9.730-9.731-9.732-9.733-9.734-9.735-9.736-9.737-9.738-9.739-9.740-9.741-9.742-9.743-9.744-9.745-9.746-9.747-9.748-9.749-9.750-9.751-9.752-9.753-9.754-9.755-9.756-9.757-9.758-9.759-9.760-9.761-9.762-9.763-9.764-9.765-9.766-9.767-9.768-9.769-9.770-9.771-9.772-9.773-9.774-9.775-9.776-9.777-9.778-9.779-9.780-9.781-9.782-9.783-9.784-9.785-9.786-9.787-9.788-9.789-9.790-9.791-9.792-9.793-9.794-9.795-9.796-9.797-9.798-9.799-9.800-9.801-9.802-9.803-9.804-9.805-9.806-9.807-9.808-9.809-9.810-9.811-9.812-9.813-9.814-9.815-9.816-9.817-9.818-9.819-9.820-9.821-9.822-9.823-9.824-9.825-9.826-9.827-9.828-9.829-9.830-9.831-9.832-9.833-9.834-9.835-9.836-9.837-9.838-9.839-9.840-9.841-9.842-9.843-9.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ing is sounds, pictures or recipes for flapjack.

The Maestro not only supports direct to disk sam-
pling (which means that given a big enough hard
disk you can digitally master yourself to CD quality
in the comfort of your own home), but also features
a digital output (which could be useful for direct
connection).

There was much interest in the soon to be
released Reine graphics card. The card promises
to provide various output enhancements at differ-
ent resolutions from 600x800 with 65000 colours to
1280x1040 at 256. The interesting thing is that it
will only cost between DM548 and DM636,
depending on how much RAM is required.

COMBO CARDS

Mascobashi were tinkering of the show with a variety
of combo cards and RAM expansions. The flagship
of the range is the MC702 which combines an AT-
IOE port, a SCSI controller and expansion
capabilities for 8Mb of RAM. Essentially this
means you can connect two more AT drives and
six SCSI devices (which should be more than
enough for anyone).

Active, best known for their amazing isytracing
package, Real 3D, were previewing the latest ver-
sion which has more functions than ever. Version 2
will only cost around £70. Hacking part of the stand
were the American firm, Digital Creations, who
were showing the new legendary DGVTV and
DGVTV-RGB.

Another well known German company, 3-State,
were demonstrating an Ethernet card. Ethernet is
a standard high-speed LAN (Local Area Network)
system, used a great deal in the professional PC
world. The 3-State system will work on the A500,
as well as the 1500 and up and will even run
Novell Netware.

Fischertronik were providing a little nostalgia for
most people. Remembers building 'Isle Laps'™
engines and robots? Well these are the same, only
with the Interface and software they really come to
life. All sorts of magical devices were on display:
robots, money machines, musical toys, CD-play-

UNLUCKY FOR SOME

Oh, yes, a look at the future isn't it to complete without a
few predictive glimpses into things, almost all of the
things that we predict came true. Do we have a rainbow
on the staff? Yes, we just big Commodore's clothes.

Amiga, here are the sort of things likely to happen.
• The second wave of CDTV's will arrive. The updated ver-
sion will be a separate product as a result of a lack of
space for the CDTV name. Due to the fact it will probably not
include the MPES compression hardware to allow full frame
full motion video, but this may yet appear as an updated
CDTV. It will contain the new AGA chipset though.

• The A600 will be priced down, essentially it will cost near
the real normal like the C64 did.

• A DSP co-processor board will arrive. This will be
included with future versions of the A4000, as well as a SCSI
port.

• 2D bit-graphics cards will become much cheaper.
Eventually a standard will emerge and people will be hap-
py. There have been attempts at a standard before, but
nobody has ever done it. The standard will be based on
what is now just how many versions of 2D card there are.
Add to that the number of different versions of TVPWT
becoming around and you can see what a problem it is. This
is the kind of thing the Amiga was supposed to avoid.

are, plotters - there were no end to the number of
things that can be built and controlled by the
Amiga in this way. These systems have been
available for some time, but have yet to make it
out here which is a shame.

Golden Vision, not to be confused with Golden
Image (who were also here), brought the latest
version of Expert Draw with them. The ability to
import various different font types has been
included and now there is a utility to create vector
font files. Output will be in EXPF (Expert Font),
DMF (Pagestream) and PBF (Adobe Type 1) for
mats. When it is released here we will no doubt see
a lot more font files available on the Amiga.

CONCLUSIONS

So what conclusions can we draw from these com-
puting trade shows? Well, the first thing must
surely be that people want adaptability. As more
and more people use computers for an increas-

• A CDTV ship will arrive in the Amiga/DSP. CDTV etc.
say that it would be ready before Christmas - but they didn't
april what else. This may be held up as an attempt to
make the device more compatible with any new features of
the CDTV release, which would be a very good idea.

• A new wave of CDTV's will be launched, somewhere
between the A4000 and the A1200, incorporating ZorroII
slots and the AGA chip set. This will effectively replace both
the A4000 and the A2000. It is important to have a mid-
range machine, because these are usually the ones that
third party manufacturers use to build systems from (ie.
Video Toaster).

• A second wave of virtual reality machines will appear,
once again using the Amiga as a main base.

• Jeremy Brindle will be married.

• Commodore will find out that we know what they're up to
and desperately change their minds about everything (not to
move to Tokyo).

Some things which might happen, but no reflection prob-
ably even.

• High CDTV deals become standard as the Amiga.
• CU Amiga will cut-out the Radio Times. Lord EMPA is as
happy that we are all allowed to go home early on Friday.
• The Video Toaster will be converted to PAL use.
• Jeremy Brindle will be happily married.

ingly diverse range of applications, customised
software and hardware is becoming more and
more essential. We in the Amiga world are akin to
younger siblings in a big home family - we usually end
up getting everyone else's hand-me-downs, but in
computing terms that means that we also get to
benefit from tried and tested technology.

BUT DOES THE AMIGA HAVE A FUTURE?

Well, the answer to that one is a resounding yes, which must
mean that something of a relief to the thousands of new com-
puter readers these words. Mark Vachon tells us why.

ODOM AND GLOOM The kick start through radical
changes within the industry slowly edged its way to the periphery of
the market and the ST took like it will follow the Falcon faster
to solve cash-flow problems. The question is will the Amiga
be able to survive a similar fate?

Just before the Amiga was a market leader, it was ahead of the line with
muscle to the technology. The custom chip set and the
user-interface design made it a candidate for long-term
survival. History is littered with exceptional machines which fell
by the wayside. The Jostler Ace, the Lynx, the original one,
the Atari hard disk, even the T-1000 have entered a
premature death. Will the Amiga follow suit?
Remember that there are also a number of (in the computer
arena, machines which have been kept alive past their prime
not because of any great marketing effort but by the sheer
numbers and dedication of their loyal fans. The Spectrum is
an obvious example, one perhaps even the Amstrad CPC, but
surely the most worthy challenges to Commodore will
always still supported by the marketplace is Commodore's
own C64.

STILL GOING STRONG The 44 million sold a Christmas
market are greater than the Amiga's and still lack the
software space in the local game stores. Although it was
of sale in about 1984 it continuously (in real terms) dropping
price saw successfully new members of the family
driving sales. It's just the thing, the little Amiga (although it
hasn't been profitable for Commodore since it was first
sold in 1984). A 1.44MB 6502 based machine with 15 address
and single headedly main hardware on one was not really
representative of the white heat of technology. But one
began that large measure made no commercial impact, more
importantly and more well thought of.
The indefinable spirit of the Amiga CPC wears kept the
machine regularly after five years, not to mention a few CPC
magazines, the Amiga and the Spectrum, well, in the darkest
recesses of a cupboard in the depths of these very offices.
It is a classic tale with a sad ending, however of the 'topper',
there is still a Spectrum magazine going strong.
The point is that even if Commodore were to go to the
hardware and software step down to save the family's most loved
home computer, that would still be to many retailers, the
shoppers, developers and magazines with no teeth to lose
that we need the greatest machine yet. And whilst
machines are still being launched, and developments are
continually underway we can safely say that the Amiga will
last at least until the next century.

OCTOBER



• Less than three months after taking up a new
role within the company, Steve Franklin sensation
ally quit Commodore UK under mysterious
circumstances.

• Both AMOS Pro and GVP + A530 Turbo clocked
no reviews of 97%. These were most definitely the
two most outstanding products of the year and
deserved every percentage point.

• Sears changed its mind and announced that it
would continue publishing Amiga conversions of
its games.

NOVEMBER

• Once again, CU were first with a review of the
A4000, hailing it as 'the most significant advance
in home computing since the launch of the original
Amiga'.

• The talking point for Commodore to announce
price rises across its entire range, to come into
effect from the 1st January. The A600 rose from
£289 to £329 and the A1200 goes up from £399 to
£429.



• Frontier (otherwise
known as Elite 2)
was publicly
unveiled, although
the release date has
now slipped into the
new year.

DECEMBER

• Gamesmaster Live!,
the EMPA ran show
held at the NEC in
Birmingham, was a colossal success with more
than 100,000 gameheads being treated to an aural and
visual extravaganza. Amongst the many
attractions were a beer-the-gauche competition
from Anco, a go-cart track laid on by Sega and a
huge Amiga arcade erected by Commodore (fun-
nily enough).

• Don didn't get the A1200 he was expecting in his
Christmas stocking, so doubtless he'll be sulking
when he comes back to work after the festive
break.

• News begins to filter through about some prob-
lems with the
sound chip on
the new A1200,
so Don's quite
glad he didn't
get one after all
(see news section
this issue for
more
details).



THE MILITARY MASTERPIECE



The Campaign Concept Includes:-

Campaign Gaming System Software

Map Editor Software

Extensive User Guide and Gameplay Manual Incorporating Historical Background, Vehicle Factfinder and Campaign Maps

2 World War II Propaganda Posters

2 World War II Propaganda Postcards

D-Day Landings Battleplan Map

Authentic Wartime Newspaper Reprint

The Most Comprehensive Military Simulation of Warfare in World War II



The level of control is up to you, if you wish you can be the tactical hero or the hands on the battlefield.

create new ones of your own. This option is available at any time allowing you to pause and enter the editor to modify the forces. You can even swap sides!

Control either Allied or Axis forces from the level of Field Marshal right down to tank driver

As Field Marshal coordinate strategy for all groups of tanks, convoys, aircraft, ships and production centres

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As a Tank Driver/Gunner experience the battle in stunning 3D.

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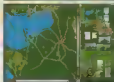
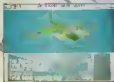
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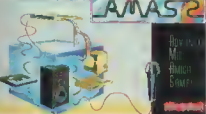
Cast your mind back to the warmth and sunshine of last August, when we asked you for your opinions on the very best in Amiga software and hardware. And now, wearing our very best moth-eaten dinner jackets, we're here to tell you all about the winners and losers...

BEST MUSIC SEQUENCER

BARB AND PIPES PROFESSIONAL - Blue Ribbon
Fighting off plenty of the hard Music X fans, *Bars and Pipes Professional* was nearly pipped at the post by Dr. T's KGS 3.5 It came through in the end though, with a substantial 36% of the vote, thanks to its unusually clear and colourful interface, a use of up and all round power. The combination of professional-quality performance and features, with user-friendly operation seemed to clinch it for Blue Ribbon Soundworks.

BEST SAMPLER

AMAS II - Microdeal This was one of the most heavily fought campaigns of all. With so many different samplers available, almost everyone had a different idea as to which was the best. *Audio Engineer* and *AudioMaster IV* notched up quite a few votes with their excellent editing options and high fidelity sound. *Studio 16* scored a hit for its even higher fidelity, and the valua votes went to *Megamix Master* and *TechnoSound II* however, above all these, *Microdeal's AMAS II* managed to come home with a winning margin of 2%, scoring 17% of the vote, with *TechnoSound* and *Studio 16* both earning 15%.



BEST PAINT PACKAGE

DELUXE PAINT IV - Electronic Arts No sur- prises here. *DPoint IV* won with a landslide vote of 86%! Even the HAM purists have now defected from *Photon Paint*, so the only challenges came from the kids art package *My Paint* and a few pal- try cross next to the animation package. *FanFusion*, and one or two logged their vote for the Public Domain *Sky Paint*. No contest.

BEST FILE UTILITY

SID 2 - Tim Martin Who needs expensive commercial software when... *shariwara* is this good? Tim Martin's highly acclaimed file handling utility won 37% of the vote, but... *sid* came from the former- PD file cruncher *PowerPacker 4*, which cruised home in second place with 29%. For its file-saving backup and disk fixing lea- tures, *Quarterback Tools* also had a good showing, with an 11% share.

BEST WORD PROCESSOR

WORDWORTH - Digma This was another vote gory that didn't much split opinion, as shatter it. Everyone seemed to have a different idea of which word processor was best. Votes were cast for the PD



programs: *Text Plus* and *Text Engine*, while *Prostat*, *Scribble II* and *Wordworth* bumped up the scores on the commercial side. Although the PD challenge was strong, it wasn't enough to hold off the lea- ture-packed *Wordworth*.

All the fun of the fair!

CG Palace Courier - Goudy Handt
ITC Bengaliat Book Post Amiga Sher

which took the title with 18% of the vote.

BEST COMPILER DEVPAK 3 - HiSoft

As expected, it was a bit of a walk over for *HiSoft* and *Devpak 3*, totting up a healthy 62% of the vote. The C brigade made their presence felt by voting for *Lattice C* and *Aztec C*, while various other compilers, including *Argam*, pulled in just enough votes to register on the percentage scale.

BEST VIDEO PACKAGE

SCALA 500 - Scala The last year has seen *Scala 500* lose over as the premier video taping package. This was reflected in the polls, which carried it a 39% wedge of the votes. *Video Studio* made good running, coming in at second place with 17%, followed by a flurry of low-ranking also-rans.

BEST SHOOT 'EM UP

PROJECT X - Team 17 While many still harbour affections for *SWIV*, *Turman 2* and *Sidewind*, *Project X* has really captured the imagination of CU readers. The arcade quality shoot 'em up scored a massive hit thanks to the programming and design prowess of ex-demo coders now working for Team 17. The slick-scrolling graphics and frantic gameplay helped it grab a mas- sive 72% of the vote. In second place was *Turman 2* with 16%, while *Sidewind* got itself 1% more than its sequel *SWIV*, coming home with 4%.

BEST ADVENTURE GAME

MONKEY ISLAND II - US Gold Justice is done, and the adventure title goes to the second piratical

escapee starring Guybrush Threepwood. The potent cocktail of rum, grog, parrot droppings and sea water proved too much for the electoral to resist. Although it was threatened by the wild and wonderful *Another World*, and also had to brush aside *Future Wars*, *Monkey Island II* made it look easy with 62% of the vote going its way.

BEST SOFTWARE HOUSE

TEAM 17 Now this was a close one. Encompassing both serious software and game publishers, it threw up a multitude of different votes. On the serious side, *Electronic Arts* had a strong showing, due in no small part to their excellent *DPoint*, and *Gold Disk* too had a fair share of the ballots. The gamers voted went to *US Gold*, and to a lesser extent *Ocean*, but ultimately it was Team 17 who took the title. *Grosby* products, with a twist of street cred, seemed to tip the balance in the end.

HALL OF FAME ELECTRONIC ARTS

A special category open to any company or individual that has been responsible for continued excellence in the Amiga field, this one was wide open. On the games side, *US Gold* maintained their popular standing, while *Commodore* themselves even clocked up a few votes. In the end, though, it was *Electronic Arts* which got the combined nod from the gamers and the hobbyist voters, which was enough to see them catapulted to the top of the Hall of Fame.

And the rest.

ANIMATION PACKAGE: *Deluxe Paint IV* (Electronic Arts)

RAYTRACING PACKAGE: *Real 3D* (Active)

STRUCTURED ART PACKAGE: *Professional Draw 3* (Gold Disk)

IMAGE PROCESSOR: *Art*

Department Professional

(ASDGI)

INTERPRETERS: *Easy AMOS*

(Eurogress)

MULTIMEDIA: *Scala* (Scala)

DISK

BACKUP:

Quarterback

(Central Coast)

FINANCE

Personal

Finance

Manager 2

(Microdeal)

DATABASE: *Superbase Pro*

(Ood)

DTP: *Professional Page 3.0*

(Gold Disk)

HARDWARE MANUFAC-

TURER: *GVP*

DISTRIBUTOR: *First Computer*

Centre

GOD SIMULATOR:

Populous 2

RUGBY GAME: *Rainbow Islands*

FLIGHT SIMULATOR: *F15 II*

MISCELLANEOUS GAME: *Talris*

BACING GAMES: *Grand Prix*

ROLE PLAYING GAME: *Eye of the Beholder II*

PLATFORM GAME: *Rainbow Islands*

UCENCE: *RoboCopa III*

SPORT SIMULATION: *Jimmy White's Snooker*

REART 'EM UP: *The First Samurai*



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- Kickoff 2 & Pipemania £122.52
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fIRST

An avalanche of new games is set to hit your Amiga in the new year. First Imps takes a sneak peak at some of the main contenders for your hard-earned cash.

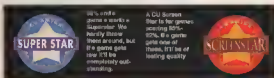
A.T.A.C. MICROPROSE

Due to touch down some time next Easter is the first of Microprose's '83 flight sims. However, A.T.A.C. (which stands for Advanced Tactical Air Command) is being touted as much more than your average fly'n bomb 3D game as it's going to contain a large amount of brain-straining strategy, too, as each mission has to be carefully mapped out before the action can begin. Already out on the PC, A.T.A.C. is set in the near future and the Colombian drug barons have lightened their vice-like grip on the world's leading cities. Corporate corruption and violence is widespread and both the judiciary and the politicians have largely fallen under their control.

As part of a secret U.S. Government department, you have been put in charge of an elite team of 150 undercover agents in order to begin a covert offensive against the various gangs and put out of business five of the major cartels. As well as the many soldiers under your command, you will also have a tactical force of four F-22 fighter-bombers and two state-of-the-art choppers at your disposal. You're going to need all that fire power, though, as the drug barons have armed themselves to the teeth with all kinds of sophisticated weaponry.

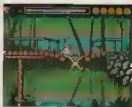
All this, however, is just an excuse for a futuristic encounter with high-tech firepower and advanced tactical weapons, although your overall objective is to stop the drug barons and bring them to justice rather than wipe them out. Bah, we'll have none of that soppyness around here, thank you very much. A bit of death and destruction never hurt anyone, did it? Erm, well maybe it did, but this is a computer game after all, so it's alright isn't it?

Anyway, A.T.A.C. is full of the lush 3D polygons that we've all come to know and love from virtually every other Microprose flight sim. There are the usual external camera angles, weaponry inventories and lots and lots of keyboard controls to master. With the reputation that Microprose have amassed for top quality flight sims, A.T.A.C. should turn out to be fun (if you like this type of thing, that is).



TIMPRESSIONS

SLEEP-WALKER OCEAN



This one has appeared in these pages before, but as it's been through a radical remix for these Comic Relief people, we thought that you'd like an update.

SleepWalker, to which Ocean Software is currently adding the finishing touches, gives gamers the chance to do a good deed, and enjoy themselves. An average of £5 per game sold will go to Comic Relief, amounting to a total of £500,000 for the charity. Ocean hopes SponserShip teams will also be included with the game, in which players guide Rover the dog as he keeps his master from harm during his night-time wanderings through all manner of dangers. Sprites in the game will resemble well-known comedy characters. They include a lolipop lady who looks like housewife mega-star Dame Edna Everage, a nightclub bouncer with the looks (and manner) of Hale and Pace's 'The Management', and a giant stamping fool—familiar to Meritly Python fans.

It's due for release in January, and it's looking good! The parallax scrolling background really enhances the gameplay, whilst Rover is animated with close attention to cartoon conventions. Goggle-eyed double takes, remaining suspended in mid-air and not falling until he realises it, being squashed flat by heavy objects—Rover does all this and more. If the sleeper awakens he'll get a nasty shock—and lose a life.

The six levels are matched by an equal number of bonus levels. These are accessed by collecting the letters of the word 'COMIC', suspended on red noses scattered about the screens. If the finished version proves as enjoyable as it promises to be, it's likely to make you an insomniac!



B17 FLYING Fortress

Microprose's second flight sim for 93 is the Amiga conversion of Vector Graphics' brilliant PC game, *B17 Flying Fortress*. In case you're not familiar with the PC version, this Second World War game involves the player in mounting daylight raids on occupied Europe from American airbases in Eastern England.

Taking control of a B17, it's up to you to command the ten-man crew to the best of your abilities as well as joining up with other bombers on 25 strategic bombing and combat missions. It's possible to take control of a computer-controlled crewman at any time during the course of a mission, with an auto-pilot kicking in if you leave the flight controls.

Hopefully, there will also be a special AI 200 version which will take advantage of the 68030 chip to make everything run that much more smoothly than a normal Amiga. The graphics will also match those of the PC version exactly, due to the increased number of colours on screen which the AGA chipset affords.

You'll be able to take to the skies in *B17 Flying Fortress* in the Spring of next year.



COMBAT AIR PATROL PSYGNOSIS

With even one million square miles of playing area, *Combat Air Patrol* is certainly a vast game as you pilot either an F14 or F18 in the midst of the Gulf War. Yep, *Psygnosis* have leapt onto the already full bandwagon to release yet another flight sim based in and around the Gulf region during the recent conflict. A 1Mb game, *CAP* lets you choose between taking part in a full campaign, which involves commanding both air and ground forces, or flying individual missions one at a time. Featuring multiple camera angles and a special flypast view, the game also includes day and night scenarios and customisable squadron formations. *Psygnosis* are also looking to include a serial link option between Amigas, so you'll be able to fly in formation with a friend and help each other out during missions.

The short demo we've had in the office is already running very fast, although it is hoped the final version will be faster still. The plane's animation is incredibly detailed and it's even possible to see the rear tailerons, arrester hooks and undercarriage being lowered and retracted. A 1Mb game, *CAP* will be winging its way onto the Amiga next February.



SUPERHERO PSYGNOSIS

With a plot that bares an uncanny similarity with Dark Horse's *Next Men* comic book, *Superhero* revolves around a secret Government research project gone wrong. In an attempt to genetically construct the ultimate human super-soldier, the top bosses of the U.S. R&D labs unwittingly unleash Apex, a malevolent super-being that is evil personified.

In an attempt to cut short his dark deeds, and Apex's evil philanthropies once and for all, another team of scientists set out to engineer another super-being to give the rogue muscle-head a serious kicking. This is where you, the player, come in. The game starts in the superhero construction lab where you can construct the ultimate warrior. The options available are incredible, and virtually any known superhero can be put together from the array of limbs, lycra jump suits, capes and boots that are placed at your disposal. As well as these aesthetics, there's also the chance to dictate your hero's dexterity, strength, endurance and special powers.

Once you're happy with your creation it's into the main game. In case you haven't guessed:

Superhero is a platform beat 'em up set over a staggering 1600 screens which pits you against the massed hordes of evil under the renegade Apex's control. *Psygnosis* are planning to release *Superhero* sometime in February—so watch for this one next Christmas!



Zool and Putty are has-beens as the latest platform star sprints onto the Amiga. Dan Slingsby dribbled his way up to Rotherham to take a look at a unique soccer-cum-platform game that's set to redefine the genre.

FOOTBALL CRAZY

Best known for their Men United kickabouts, Rotherham-based Kinsale Software are about to change all that with the release of Soccer Kid, a game which seeks to combine the arcade playability of a loopy sim with a platform game. Based around the 1994 World Cup, the new multi-level kick'n'jump game involves a romp around the world as the impish young star attempts to collect six pieces of the missing World Cup and thus save the competition from disaster.

When Kinsale's supremo, Tony Kavanagh, announced plans for the new game at the beginning of the year, industry insiders had a bit of a snigger at his expense. Now, the tables have most definitely been turned, as the game is creating



SOCCER KID

considerable interest both in the computer press and from the big console giants. The seemingly unplayable idea has metamorphosed into what is likely to be one of the top ten games of '93.

Work began on Soccer Kid back in February 1992 with the game's engine being put together by Kinsale's chief programmer, Pete Harrop, which was then handed over to Nigel Little to design and construct each of the six levels. It's not been a one-man show, though, by any means, as in-house musician, Matt Fennes and graphics man, Neil Adamsen, have had an equal share in the game's overall design and playability. It's difficult to say who has done exactly what as the line are constantly updating their ideas and introducing new twists and turns at every opportunity.

SILKY SMOOTH

The result is a silky smooth platform romp with an amazing number of trick shots available to the tiny star of the game, as he seeks to negotiate platform-packed screens in his efforts to retrieve the missing cup pieces. The football-mad hero has a ball consistently at his feet and with this he can dabber any approaching nasties as well as pick up some of the many in-game bonuses lying around each level. If the ball is kicked too far, it will slowly roll back to the kid, so it's difficult to ever lose possession. There are already more than fifteen shots available to the round hero, with the little guy able to lob the ball straight up into the air, perform an overhead bicycle



A sign of a good platform game is one with many hidden stages to first and explore as well as lots of rewards and points to collect along the way. Soccer Kid certainly has plenty of these!

shot, and smash the ball off the screen with a power kick. He's also able to head the ball, either on the ground or in the air and balance it jump on the ball to reach otherwise inaccessible areas. The angle of the ball's flight can also be altered by tugging on the joystick in the required direction.

The control of the ball, more than anything else, is the key to the game's playability. Surprisingly, the control system was one of the easiest things to implement. That was relatively easy — most of the hard work had been done by Pete Harrop, although we've added numerous



other looks as the game's gone on. The really hard part has been in the game's overall design, making sure each level is suitably different from the preceding one, and introducing different skills for each one,' mentions Matt.

To help people become accustomed to the ingenious control system, there's going to be a trainer option at the beginning of the game. At the moment this consists of a number of animated sequences showing how to pull off each shot, but in the finished version there will be a special level set in the anonymous hero's backyard where he'll have to negotiate an obstacle course and learn all the necessary skills as he progresses through it.

WORLD CUP

The main game will consist of six levels, each one divided up into three stages, although the team want to add even more if possible. Each level is set in a particular country and each stage has a particular theme relevant to the country within which it's set. For instance, the USA is made up of a bench stage as well as wild west and city sections, whereas the Japanese level involves a mad dash along the roof of a bullet train, a kick around a computer factory and a squishy journey through a nose field section. Other countries covered include the UK, where the game begins, Brazil, Russia and Italy.

There's also going to be the usual end of level guardians: although each one will be tailored to reflect a particular level's theme, i.e. you'll come across a huge American footballer in the U.S. section, a Sumo Wrestler at the end of the Japanese level and even a Pavlov-like dog makes a guest appearance at the end of the Italian level. After completing the UK level, most of the other stages can be accessed immediately, except for the USA level and the final encounter with the Alien Frankster, a huge end-of-game nasty who's responsible for kicking the trophy in the first place.

To make things even trickier, there'll be at least a couple of ways to complete most levels, and lots of bonus stages included in the final game. These will be triggered by collecting eleven football player's cards, some of which will be hidden in underground rooms and others stashed away in inaccessible corners and hard to reach platforms.

PLAYING FIELD

Soccer Kid is going to be a 1Mb game, coming on at least two or three disks. Using a duel playfield mode, eight colours have been used in the foreground and an additional eight for the background. The use of copper effects for the sky further extends the number of colours on screen at any given time and makes the game look even more console-orientated. Running at a rate of 50 frames a second, it looks as if Soccer Kid will be as fast as anything in the arcades with huge 64x64 enemy sprites patrolling each level. And, for all you new A1200 nobs, there's also going to be a special version of the game especially written for your machine.

The game's still not due for release until Easter next year (1993), but things already look lenient. It's set to appear on lots of different formats, but the Amiga version will be the first to hit the streets. Forget Parasol Stars, don't bother with the Adams Family: check your copy of Fire and Ice away — Soccer Kid is set to redefine the platform genre when it's finally released. Watch out for it. ■

It's fun, it's console-like and it's coming to an Amiga near you soon. Keep watching these pages.



TEAM TACTICS

The three main team working on Soccer Kid have a varied track record and, such is their determination to make the game the definitive platform available for the Amiga, that they sit at work late into the morning without any sort of break (in fact).

MATT FURNISS

Matt is the musical maestro of the team and has already provided the sound effects and in-game tunes for a huge number of games including US Gm's *Defcon Europa* conversion, *Cybertron* from Psygnosis, and Kixxall's own recent release, *Strike Team*. Still only 18, Matt's also produced a rare version of *Rembox* amongst many other such tracks.

NIGEL LITTLE

Nigel is the programming talent behind his hockey game, *Face Off*, but we're not going to hold that against him. He's also done numerous Amiga conversions of games such as *Street*, *Nikolov* and *Lobster 2* during his 2½ years of commercial coding experience. And just to show you how busy it is to be busy, he's also the rough and tumble of commercial games programming. Nigel got his lucky start by replying to an ad in his local paper!

NEIL ADAMSON

The graphics for Soccer Kid have been put together by Neil Adamson, who has been incredibly good modelling a Manchester United football shirt. (Weasie, weasie weasie... eh Neil?) Starting off working on a Disney game for Collaborative, Neil soon saw the errors of his ways and joined Kixxall's fold (he's to work on a variety of in-house games).

PETE HARRAP

Pete is the chief coder of Kixxall and has the responsibility for Soccer Kid's game engine, the graphic system, map editor and scrolling. As well as providing the rudimentary elements of the game for the rest of the team to piece together, he keeps in close touch as to how the game is developing and steps in to change code like they're going disastrously wrong (which they aren't, as he hears it).



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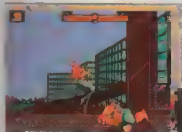
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Here's an example of a preliminary sketch done before work started on the computer-aided design of the game.

BODY BLOWS



Each country provides a different backdrop, from which to fight your opponent.

COMING TO BLOWS

You've got to admire Team 17. They really have got a latter-day Midan touch on their last three releases; have shot straight to number one on the software charts. And it's not surprising when you consider the quality of *Alien Breed*, *Project X* and the recently released *Assassins*.

Naver ones to rest on past successes, though, the Wakefield-based games publisher has already started work on no less than six titles for release during the first half of next year. Of these, by far the most promising has to be *Body Blows*, a game that head honcho, Martyn Brown, is already billing as the definitive Amiga beat 'em up.

To be honest, there really isn't a lot of competition to begin with. To my mind, there's only ever been one decent beat 'em up on the Amiga — Archer Maclean's excellent *IK-1* — and that's almost five years old now! I don't want to rubbish a game before I've even seen it, but I really doubt that *Street Fighter 2* is going to set the world on fire or even create a little dense

While *Street Fighter 2* smashes its way onto the Amiga, Team 17 is secretly preparing its own stunning beat 'em up. Dan 'Biffo' Slingsby gets punch drunk with the programmers.

smoke come to that [STOP PRESS — Okay, I was wrong, we've just had the final version of *Street Fighter 2* in the offices and it's a brilliant conversion and almost certainly the best beat 'em up on the Amiga I've ever played — Repentant Ed]

BODY SLAMMING

Body Blows certainly looks the business if nothing else. Work started on the game almost six months ago, and most of the graphics have already been completed, barring any last minute changes. Although there's certainly nothing like the much-touted 223 unique frames of animation per character that have reportedly been incorporated into the Amiga version of *Street Fighter 2*, this is because the creative duo behind *BB* have given the game's playability utmost priority. Even so, everything about the game's graphics and animation oozes class thanks to the inventive Japanese-inspired artwork of Danny Burke, *BB*'s artist and game's designer who also came up with the initial inspiration.

After sending some preliminary sketches to Martyn Brown at Team 17, Danny was then introduced to Junior McMillan, the coding brains behind the game and veteran TRS-80 programmer (J). From there, it was simply a matter of exchanging ideas and working out the finer details such as memory allocation, number of combatants, sprite size and running speed.



Each character will have a range of special moves of their disposal, and these will be exclusive to particular characters.

THOSE SPECIAL MOVES IN FULL

Each character is capable of a number of standard moves with variations, but when a special mystic combination is used, each one also possesses a number of special moves unique to that character.

- Dan and Mike are both capable of pulling off a super spinning kick, as well as shooting off a bolt of energy at their opponents.
- Le-Ray, the Kickstart Monk, can flip his body right over, causing anyone or anyone to be immediately velocity to be sent flying.
- Justin, the Thai-boxing expert, has a super speed punch capable of power-drenching the other player clean off the screen.
- The Iron woman of the group, Maria, has the capability to bend her body into a symmetrical wheel-like kick that can send brutal boomings at enemy fighters.
- Concock, a Russian soldier, can melt himself into the ground and re-emerge anywhere on the screen to catch his enemies. This will be purely random in the finished game.
- American Wrestler, Doug, has a bear-like body crush as well as the capacity to cause shockwaves to blast across the screen.
- The will of the bunch is Mike, a business man. Post him too far, though, and he's capable of splashing across the arena's wreckage havoc on his foes.
- Yui-U is a specialist kangaroo fighter who can pull off huge jumps to get out of trouble and he is also capable of taking in and out of focus (like the apple in the Battle Squadron), so is technically difficult to sic down.
- That's not all the characters' moves by a long way, just the ones that Team 17 felt like letting you after a few points in the final rounds — as expect many more in the finished game.



It's just a coincidence that two of the characters are called Dan and Mike? We could see on for a special challenge match between our Editor and Tech Ed because of this when the game's released!



Ooh-er, this brings me to the eye. Even a highly inspired Russian generalist of twenty years standing couldn't pull this one off without losing their sense of humor.

To be fair to the team, *Street Fighter 2* has not been their much of an inspiration for the game. Work started months before the SNES version of the coin-op appeared over here and neither have played the arcade machine much. Instead, Danny gives the nod to the Neo Geo's *Fatal Fury* game as providing the initial impetus. "If you haven't played *Fatal Fury* on the Neo Geo, then you're missing a treat. There's certainly been nothing like it on the Amiga, that's for sure. It definitely beats *Street Fighter 2* hands down. It's so much faster and much more action oriented than the Capcom coin-op, drools the London-based artist — well, he had had a couple of shendies, after all."

SPRITE FIGHT

In order to cram in as much as possible, the team have kept the number of on screen colours down to 16, although the frame rate is an impressive 25 per second and the sprites are much bigger than the Amiga version of *Street Fighter 2*. The play area will also cover the entire screen, too, except for a small status bar at the very top.

There are plans to include a total of 14 characters in the game, ranging from Ken and Ryu-clones through to Japanese Ninjas, American Wrestlers and a Grindul Mark. In tournament mode it'll be possible to choose any of these characters except the mystery eleventh character (see Terminator box only). Up to 8 players will be able to take part with rounds set

at one, three, five or seven. In the normal arcade game, it will be possible to choose from one of the four main characters — Dan and Nick, a pair of kung-fu/karate experts, Lo-Ray the previously mentioned Buddhist Monk and Junior, a Thai boxer with a lethal body kick. From there, each round is set in a different global location (sound familiar, by any chance?) with each character pitted against the remaining fighters in turn.

Surprisingly there's no character vs. character mode, which might disappoint *Street Fighter* aficionados but, as Martin Brown explained, "It's all very well having such options, but at the end of the day it's playability that counts above every thing else. If we were to have included a character vs. character mode and other such gimmicks, then we would have had to have made space savings somewhere else and, ultimately, we may have had to slow the game down. As it stands, *BF* is much faster than any previous Amiga beat 'em up I've seen — guaranteed!"

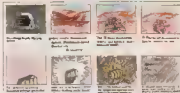
UNDER CONTROL

At the time of writing the control method hasn't been finalised. Obviously, with just one fire button on the majority of joysticks, the team have been fairly limited in what they can achieve. The power of punches, kicks and throws will be determined by the proximity of the characters to each other and the various special moves will be triggered by a combination of joystick movements, button presses and good ol' joystick waggling. Music for the game will be typically arcade/console oriented and there will also be more than 100k of sampled speech included. These will be sampled from various kung fu movies as well as various other sources, so every groan and moan will be as authentic sounding as they can be.

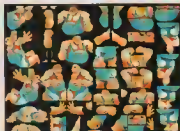
The game is scheduled for a late January/early February release and we'll have a full review soon. In the meantime, keep your eyes peeled for next month's coverdisk when we'll have an extra special playable demo of the game, so you can make your own mind up. Are we good to you, or what? ☺

YOU HAVE BEEN TERMINATED

The eleventh and final fighter is, naturally, the toughest of the lot. And you're in for a treat if you get the fix. I don't want to give too much away. Get the character in a Terminator-style armor who does a lot of things to being pushed about. At first he assumes a human guise but once you've beaten him, his skin dissolves to reveal the robot fighter beneath and then all hell lets rip. Dan and Junior are also going with the idea of including yet another fighter in the game, and this one might resemble an Alien-type warrior. Now that would be something!



Here's one of the storyboard roughs the team used to present the game to prospective publishers.



Okay, so you're not going to get as many frames of animation per character as you get in *Street Fighter 2*, but looking at these Sprites bear with, do you think it's really going to matter?



And here they are, the most motley collection of representations that ever graced an Amiga game.



And here's Ken going through two of his spinning kick moves. Or is it Nik? Trouble is, when you're working off a black and white monitor at less than six months, everything and everyone begins to resemble each other. Well, kinda pretty good, isn't it?

HISTORYLINE



1914-1918



HISTORYLINE 1914-1918 is a strategy war game simulation set in the period of the first world war.

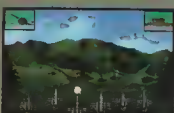
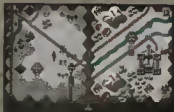
One or two players are able to take control of opposing forces. Choose to take the role of either the Allies - or the German-Austro-Hungarian army. From your aerial view, witness the battle as you deploy and then the enemy counters.

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HISTORYLINE 1914-1918 contains a wealth of historical and technical information. This is not only illustrated beautifully on the screen during the course of the game, but is also available for your reference in the extensive and meticulously researched manual.

Making it easy to learn and to play, **HISTORYLINE 1914-1918** is a must for anyone interested in an extremely high quality, massively challenging, addictive, and hugely accurate strategy war game simulation.

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Screen shots show MS-DOS VGA version. MS-DOS version supports AdLib, Soundblaster, and VGA 256 colour mode graphics. Amiga version supports accelerator boards and 64 colour mode graphics.

Designed and developed by the same team who created Battle Isle.
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BATMAN RETURNS



Paul Grey, the guy in charge of the music and sound effects in *Batman Returns*, spent a couple of years away from the video games industry to work for this local waterboard. "I did his head in, so he's back in music again," explains programmer John Heep.

After watching the movie, chewing the bubblegum, reading the novel, ignoring the toy figures, wearing the T-shirt and buying the video, Rik Haynes eventually finds some time to play the game...

An *Batman* is always on screen, he has almost 300 frames of sprite animation but *Catwoman* isn't far off that figure. The Penguin is quite a small sprite but there is still a few frames of him, too.



MERRY MERCHANDISING

Kat-dami! When you're looking out for merchandise goodies from a movie, there's simply nothing better than *Batman*. This dynamic duo of movies starring Michael Keaton as the Dark Knight, has made a whole mountain of money. Thing is, Konami's interpretation of *Batman Returns* has missed out on most of the hype.

The game was originally being developed by Rage Software, the team behind *Striker* and a string of Ocean games. Now Denton Designs is reining in the reins after Rage had to give up the project due to other commitments. Was the takeover difficult? "No, they're just down the road," responds programmer John Heep. "Some of the people at Rage Software have actually worked with us before."

Formed in 1984 after the demise of Imagine, one of the first British software houses, Denton Designs is best known for

Shadowrun: Mutants and *Franken Goes to Hollywood* on the C64 (with *Batman Returns* also due for release on this veteran Commodore machine). More recently, Denton Designs has produced *World Class Rugby*, *Krusty's Super Funhouse* and *Wreckers for Audiogenic and Acclaim*.

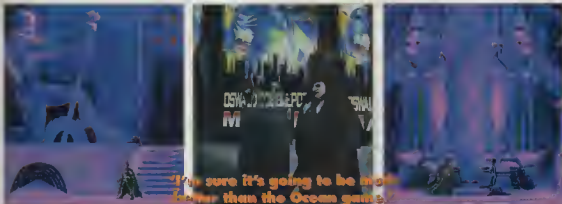


THE DIRECT APPROACH

Heep confirms the latest project is loosely based around certain scenes from *Batman Returns* but he believes the game will stand up in its own right. The team is trying to recreate the dark mood of the film while transforming *Batman Returns* into a fast beat 'em up. It's a sort of *Street Fighter 2* with groovy Batarangs, Gothic architecture and, of course, the completely diaphanous Catwoman.

"I quite enjoyed the movie," says Heep. "It's a fun action movie that lends itself well to a computer game. A fortune was spent on the special effects but the plot wasn't too hot."

Pulling a typical game-of-the-movie stroke, Rage Software wanted to incorporate a few 'puzzle sections' similar to the ones from *RoboCop* and *Terminator 2*. For instance, players had to reconnect the wires of the Batmobile before they squashed a helpless



"I'm sure it's going to be much better than the Ocean game."
John Heep, programmer of
Batman Returns

old lady. Thankfully, these involuntary flummings have been removed to improve the flow and immediacy of the game. Heep adds, "We thought they would slow the action down. Emphasis will be placed on the number and ferocity of adversaries."

Unlike the first Batman game from Ocean, there's no chance to drive the sleek Batmobile. Instead, players take control of the Caped Crusader and dispatch a barrage of baddies before the final confrontation with The Penguin and his pesky pals.

BAT-TASTIC

Batman just wouldn't be Batman without a few new gadgets stuck up his utility belt. In the game, he can call on the help of Bat-arangs (a kind of smart weapon that moves about the screen hitting Batman's opponent), Batdisks (hard metal discs that can be thrown horizontally or diagonally upwards and modified in flight by some afterthought) and Body Armour (makes Batman immune to attack for a limited amount of time). He also collects Bonus Bats for extra lives, strength power-ups and bonus score tokens. Sadly, there's simply no sign of any shark-repellent Bat-spray. [That's the wrong Batman, stupid!—Ed.]

Anyway, things are shaping up fine and if the scrolling demo that I've seen is anything to go by, this could be one of the hot games for '93. Time and programming will tell. It's due for release in the Spring and CU Amiga will, of course, bring you a full review as soon as possible.

RIGHT SAID ALFRED

Penguin seemed like a dreadful disappointment! Alfred, Batman's faithful Butler, won't be in the game. There's no sign of Robin, either. Perhaps they'll appear with The Riddler in a bit. Batman Hides Again?

HOLY LEVELS, BATMAN!

STAGE 1: In hell-tective spilt, the videogame's Princess has to fight the Chameleon crew in Gotham Plaza. Holy sweetest! The Red Triangle gang arrives to spoil the party. Batman must battle the hideous hordes of circus criminals before reaching Salina Kyle from the shadows of an evil clown. Once he's upstaged the grappling gun, Batman saves the world on this level alone.

STAGE 2: There's broken windows, graffiti and the endless Bary skyline. The Penguin is floating around on his helicopter, dropping Pom-poms on Batman. Gotham's gardens must look over a machete trap, avoiding each dispirited and Penguin's aid quickly. As Batman is hit, his strength is reduced. Luckily, power-up items are available to replenish his crime-fighting capability.

STAGE 3: The Bat confronts The Cat on the rooftops of Gotham City. Watch out for the gargantuan pillars and the Beldadine in the city above. The combat style will be very hard and anguished, cartoonish action design. A platform level involving a lot of teasing and cornering from ledge to ledge. Batman fights off Catwoman but she always lands catlike as he feels on another ledge till she falls into a cardboard box.

STAGE 4: Believing him to have kidnapped the Ice Princess, the police shoot at Batman as he dodges steam vents and flame-blasting choppers. The Duck Knight also encounters vampire bats, drug scorpions, the Penguin and Catwoman. If Batman has collected the Batwings (bats he will safely slide down to the ground).

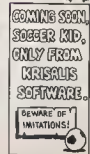
STAGE 5: Up against killer robot penguins armed with destructive missiles. Batman enters the Arctic World of The Penguin's lair. He can use leopards, vertical frogs, and rotating balloons, trampolines, springboards and trapezes to avoid the toxic water below. That feathered link appears as the enormous yellow duck and attempts to bust Batman.



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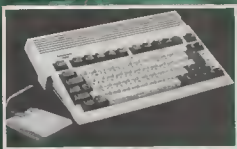
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and progress are critical. They're not there on their own. If Park doesn't stay very close to the mission, we need to be able to maintain and to have the things that are needed to get the job done. There are a lot of things that are not covered in the mission.

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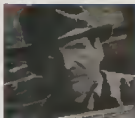
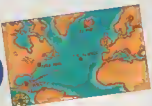
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INDIANA JONES



& THE FATE OF ATLANTIS



Pop up to the attic for a look around. Indy may find something useful up there.



On hearing the latest Indiana Jones movie had just been released on the computer screen, Tony Gill grabbed a box of popcorn and set off in search of the man in the battered fedora.

GLOBE SPANNING

It's just possible that Harrison Ford has blown the opportunity to star in the greatest Indiana Jones movie that has never been made. Lucasfilm has taken the now familiar ingredients of the Indy sagas and woven them into a top-notch adventure game which spans the globe. Nazi agents are hot on the trail of an extraordinary substance called Orichalcum, which could help Hitler's scientists create a Super Bomb and thus decide the outcome of the war. The clues point to the lost city of Atlantis and the only living that stands between them and world domination is our laconic hero.

It's that old Greek philosopher Plato that we have to blame for the whole business. His tales of a mighty civilisation which used Orichalcum to power huge machines, and even fuel flying craft, have sent Nazi spies sniffing around ancient burial tombs in search of Plato's missing hofax. The bad guys are convinced that Plato was not just a crazy Greek Kebab seller with an interest in fairy stories, he really did have the goods

on an ancient power source and its location is hidden in his old papers. But where is Plato's old manuscript now? Could the writings pin-point the spot where Atlantis stood and perhaps lead to a hoard of the vital Orichalcum? It seems that despite all the splendour and power which

the ancients possessed, they were unable to save their city when the sea rose up and drowned its inhabitants. However, Indy suspects that although Plato was a dab hand at essay writing, his mathematics left a lot to be desired and in fact the calculations that placed the city in the middle of the Atlantic were wrong. If Indy's theory is correct the submerged city is in the warm waters of the Mediterranean where anyone who isn't afraid of hitching a ride in a German U Boat could prove the point.

But we're getting ahead of ourselves. Before we can go skinny-dipping in the Med we have to visit Iceland, The Azores, South America, France and the Sahara



The cottage basement looks like the place to find useful objects, and it's also got a slippery chute leading to the floor above. Getting down the chute is easy. The trick is to get up again!



Somewhere in this Arab shop there is sure to be something that's worth taking home as a souvenir, but what is it? He's got everything from a gorgeous piece of the real Croze to the latest Zippo lighter - so there must be a bargain that's worth haggling over.



Desert. I trust you have been saving your Air Miles tokens?

The *Fate of Atlantis* has all the ingredients for the makings of a mega-adventure film which would top everything we have seen so far. We may never see the movie, but by combining the exciting storyline with an easy-to-use control system, we do have a great game. As well as exercising your trusty brawn, you will be called upon to steer a camel, drive a jeep, pilot a submarine and fly an air balloon. (You certainly get your money's worth when Indy is in the driving seat.) Don't worry if you are not a fan of nimble fingered action, for these excursions into arcade action are fairly simple and won't cause too much pain.

PICK YOUR FATE

Do you hate arcade action mixed in with your adventure, or does the addition of a punch-up add spice to your quest? Are you searching for a single-minded challenge, or would you welcome a partner who can offer useful suggestions when things get tricky? Whichever your decision is, this package is just right for you because it has all options in the one game.

After battling your way through the initial stages you will come to the point where you may decide how you wish to play the remainder of the game. You may decide to take the First path, which enables you to let your brawn rather than your brain take the strain. With this option you

The ancient Atlanteans were so anxiously so the Egyptians when it came to hiding secret passageways in the local pyramids. You just know there has got to be a way through this rock wall, but the solution will take a bit of thinking about.

needn't waste time wondering which cunning option will get you out of a sticky situation, you simply opt to 'bop' anyone who gets in your way. In this case Indy will deliver uppercuts and haymakers at your command, and providing your sense of timing is right you can beat a path to success.

Alternatively, you can choose the Team path which lets the lovely Sophie lug along and tend her worryingly wiles and helpful suggestions when things get tough. (That girl could charm the pants of Hunter!) In this case, awkward customers tend to be more helpful than they ordinarily would be. In addition, when every way you turn seems to lead to a dead end, and you've even forgotten what you were looking for in the first place, your beautiful assistant can sometimes come up with an idea which will put you back on the right track.

Finally, for those amongst you who enjoy doing things the hard way the game offers the Wits path. In this case you are on your own and the game will 'take no prisoners'. Slightly deterministic and the wall to succeed are needed here, but no doubt you're

Getting from one side of a jungle cavern to the other might seem to have an obvious answer, but look again. That large green disc wrapped around the tree trunk is something! If there is one thing that Indy can't stand it's snakes, so think again.

NEVER MIND THE CONTENTS, LOOK AT THE BOX!

It is possible for a software company to buy a big movie license and produce an 'Empty Box' game which will make big money. An Empty Box game is one which the public will buy, and not even care if there is little or nothing inside it. Remember the Teenage Mutant Turtles game? The reviewers panned it and said it was rubbish, but it still made the number one spot in the polls and the kids fought to get their hands on a copy. Software houses know that if they produce a game with Bert Simpson or Batman on the cover they have a licence to print money. There seems to be a never-ending queue of punters who will spend their cash on anything connected with their personal passion. (I believe there is a fortune waiting to be picked up by the team who get the rights to produce a Star Trek Pin Noddler).

Knowing that you can fool some of the public, all of the time, it is all the more credit to Lucasfilm that it has gone to such extra-ordinary lengths to produce a game which is worthy of the Indiana name. Why does it bother to do it? It is simply because it is smart. It knows that sooner or later you will start linking the name Lucasfilm with quality and you will choose the box with that name on it - rather than the box with the picture of the latest comic hero which doesn't make any sense when you take it!

THE HERMOCRATES

Now at last I have Plato's Lost Dialogue translated entirely. The Greek original is lost, so I've used the Arabic text I found in an Italian monastery years ago and always thought was a hoax. Now I wonder... could this remarkable book hold the secret to

Long-lost Atlantis?

Probably not. No one will publish it, that's certain. The fear of ridicule is too great. To be safe, I've sent a copy to Dunlop.

Charles Stannard

London, 1922

STONED IN ATLANTIS

It seems that the ancient Atlanteans had a thing about creating secret doors which could only be opened with the aid of circular stones rotated like a combination lock on a safe. You will spend a good deal of your time finding these hidden wheels and re-assembling the mechanisms. Plato's lost Dialogue contains the clues you'll need to find the combinations, but it will be a puzzle.

PLATO'S LOST DIALOGUE TO BEGIN THE GAME



The Greek philosopher Plato wrote many strange tales in his secret notebook. He said this is secret for possibly the secret location of Atlantis - and to give madmen scholars a headache trying to translate it.

INDIANA -THE MOVIE

Three Indiana Jones adventures have made it to the big screen - Raiders of the Lost Ark, The Temple of Doom and The Last Crusade. The first film came about because the director Steven Spielberg had just made a financial turkey called 1941, which had flapped, and he wasn't sure what to do next. At this point his old friend George Lucas (who had created the Star Wars movie) approached him with a script he had written called Raiders of the Lost Ark. The film was made for 20 million dollars and went on to make 200 million dollars at the box office. Because of this success, Spielberg regained his confidence and decided to make a film he had dreamt about making for many years. The film was about a small alien who came to earth and was befriended by a boy. The real, as they say, is history.

THE CAST

INDIANA JONES

College Lecturer on Ancient Civilisations and Exotic Antiquities. Expert with bullwhip, bare knuckles and the lightning one-liner. Brave, patriotic, but a snicker for a pretty face.

SOPHIA HAPGOOD

Is a pretty face! Sophia is also an archaeologist who has gone commercial. Having assisted Indy on archaeological digs in the past, she now gives lectures on Atlantis to the general public, which she spices up by claiming she gets personal messages from a ghostly spirit guide. She owns a rare Atlantean necklace which she 'borrowed' from an ancient tomb. On occasions she can create wondrous effects with her necklace by placing a rare bead of Orichalcum into it.

DR. HANS UBERMANN

Chief Scientist in Hitler's Witch Warped, evil genius who has big plans for the Orichalcum. While the German Army hopes to use the power to fuel their tanks, Ubermann has wilder dreams of building the ultimate Atomic bomb.

THE PLOT THICKENS

The game closely follows a storyline which could be titled word for word from an Indiana Jones film. Opening in Indy's University, we find our hero searching for a small statuette amidst the old collections of artifacts stored in the attic. With this retrieved, we return to his office to display our find to the University Head and his visitor.

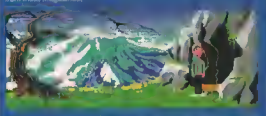
No sooner does our mysterious visitor get his hands on the item than he reveals himself as a Nazi spy and makes off with the find. Realising that there is dirty work afoot, Indiana decides to make contact with an old friend, Sophia Hapgood, in New York who he suspects

ADVENTURES ARE TOPS



There was a time when adventure houses couldn't give away adventure games, but times they are a-changing. There is big money to be made out of high quality graphic adventures and most publishers are keen to have a stake in the business. The Sierra Company ruled the ratings for a few years with their highly successful Quest and Leisure Suit Larry series, but their popularity waned with

Amiga owners as their games became targeted more at the growing PC market. The number one publisher in this field is now undoubtedly Lucasfilm who has a long list of prize-winning games to its credit: *Maniac Mansion*, *Indiana Jones and the Last Crusade*, *Zak McKracken and the Alien Mindbenders* and *Indiana Jones and the Temple of Doom*. All of these have been greeted with praise and pleads from gamers. French and British software houses have also had success with their efforts. Delphine is the French software house who produced *Future Wars*, *Operation Stealth* and *Cause for a Copier* and saw each of them hit the top ten in Britain. Britain's own Harcourt Ltd. brought creepy terror with its distinctive offerings of *Personal Nightmares* and the *Elvira* games, plus its soon to be released *Warworks*. Other British offerings include Core Design's *Curse of Enchantia*, and *Lost of the Temples* from Revolution. The very latest contender who has flown its considerable talent into the ring is Westwood Associates - the team which created the *Eyes of the Beholder* games. Publishing through Virgin Games, Westwood has released *Legend of Kyrandia* as the first of a series of graphical adventures, and it has been receiving rave reviews from most magazines.



Zak McKracken is our daily *Leisure Suit* hero. He's a slightly misanthropic young man, wearing glasses, and the last time we saw him, he was being sent to the hospital.

Dr. Hans Ubermann is a Nazi spy who has big plans for the Orichalcum.

made of the right stuff.

Unlike other games which claim to have multiple gameplay built in, these options are truly different. Although the paths cross each other at key stages, there are many occasions where you have completely different puzzles to solve. For this reason you really can play the game more than once and get a second helping of fun.



It's dark in the left and there are so many strange objects to identify. Sometimes around here is an object of value, and how are you going to find it amongst all this junk?

knows more about this business than she has admitted. Sophia convinces Indy that there just may be some truth in the old legend of Atlantis and the secret power source held within its weird mineral, Orichalcum. The couple decide that the best course of action is to search for the Lost Dialogue of Plato, which legend has it pin points the location of Atlantis. Finding the book means a flight to Greenland and then to an Aztec Temple in South America. Following the clues, the couple eventually arrive back at Indy's University where luck would have it, the book is in fact another item which has been stored along with all the junk from previous expeditions. The trail begins to heat up as Indy and Sophia head for the South of France where a French expert gives more information which sets them winging towards North Africa and a perilous trip across the desert in a hot air balloon. With their inventory of strange items growing ever larger, the next step is to find a tiny island in the centre of the Mediterranean where a secret

entrance leads to a long forgotten series of caves containing old statues and a wondrous model of the lost city. At the point the Nazis begin to close in and Sophia is dragged away to a German submarine, which is preparing to dive to the very spot where Atlantis lies submerged. Smuggling himself aboard, Indy hitches a lift to the bottom of the sea and into a world where wonders beyond imagination are to be found. Huge Atlantean machinery must be operated to control forces which still could destroy the world. Underwater



A trident pole makes an ideal ladder when you need to get into the cave. This trick is first what you need to manoeuvre this unlikely block of wood into the right position.



After spending an long searching for books in the library of his first adventure, you would think there would have had his BS of literature, but here he is again searching for a best seller.

volcanos spout rivers of fire, which threaten hero and villain alike. Can Indy save himself, the girl and the world? You had better believe it!

All of these considerable options and splendid graphics do have a "downside." For a start, the game fills up 11 disks. If you are an old campaigner of the Lucasfilm games who has already won these spurs in the *Monkey Island* series, then you'll know what you are letting yourself in for. When contemplating playing games such as these, a hard disk becomes a necessity rather than a luxury. It can be played from floppy, but things can get a little wearisome. A second important factor is that the game is pushing at the limits of the Amiga's graphic-handling capabilities, and there are a few occasions where the strain becomes very obvious.

INDY'S IQ TEST

As well as making life more interesting by providing multiple paths through the game, the writers decided to let you solve some puzzles with more than one solution. There are also some amusing features which have been added just for fun. You may welcome a puzzle using the obvious solution, or can stumble on a tricky alternative. The game awards you extra points for every nook and cranny you manage to shine the light of reasoning into, and these points are added together to give you an IQ rating. It is possible to bulldoze through the game and complete it, with all the finesse of a drunken elephant, or you can spend time experimenting with every situation until you pick up all the possible points which have been cleverly concealed there.

Needless to say that if you choose to follow the path of the Fiat, you'll not be giving the Indy Quotient soft ware much work to do in keeping the score!



When you feel you really need to get away from all the noise and bustle of the town, all you need do is take a walk to the river and find the balloons dam. If you've got a ticket you can take a fast trip and try out your swimming skills.

CONTROLS

Normally you will control Indy's movements and actions by means of the mouse pointer, but you can use our son and keyboard controls if you wish. No typing is required to create a command line, you need only select the actions from the list of options below the main screen. If you point to an object in the main screen the game intelligently illuminates the likely command you'll want to use from the list of options available. Clicking the right mouse button instantly uses that option without you having to move the pointer off the main screen to select it. (That's what we call Ergonomics my dear Watson!)

CONCLUSION

Without doubt this is a brilliant graphic adventure. The setting of the difficulty level for the puzzles is just right for the person who likes the idea of playing an exciting adventure, but who doesn't want to be hassled by obscure puzzles. This is a huge game which sprawls over endless locations, all of which are beautifully illustrated. The designers have tried to cram in everything you could want in a game and in so doing have given the standard Amiga a huge task to cope with. If you can forgive the occasional lack of sparkling response from your computer as it struggles with the large animation sequences, then you'll be rewarded with a game that will keep a smile on your face for weeks.

BUYER'S GUIDE

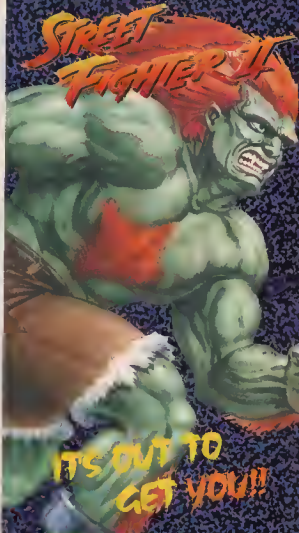
release date	Out Now
genre	Adventure
studio	Lucas Films
controls	Mouse
number of disks	11
number of players	One
hard disk installable	Yes
memory	1Mb

LUCASFILM £34.99

A huge game that sprawls over 100s of locations.

GRAPHICS	95%
SOUND	90%
LASTABILITY	85%
PLAYABILITY	90%

OVERALL 90%



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NODDY'S PLAYTIME



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tearaway THOMAS



Faster than a speeding pensioner, able to leap tall curbs in a single stride, Dan Slingsby dons his red lurex catsuit to review one of the fastest platform games ever to appear on the Amiga.

MONKEY BUSINESS

Easily carrying off the award for worst title of the year is this new offering from newly-formed Global Software. *Tearaway Thomas* is being touted as the fastest-moving game on the Amiga and a potential Sonic beater, but you'd never guess from the title — it sounds more like a children's bed time story than a state-of-the-art home computer game. Whoever came up with such an appalling name should be taken out and shot, as they obviously have no idea how to market a game at all. This is further evidenced by the gaudy and tasteless packaging the game comes in, which looks like it was put together by a chimpanzee and a set of crayons.

This is all at great price, as the actual game itself is really rather good. So good, in fact that I've been unable to stop playing it for the last couple of weeks. It's a platform game, pure and simple, with the emphasis on speed and reflexes. The graphics are cute and simple, the music irritatingly hummable, and the action non-stop. Forget the awful plot — some nonsense about a quest to find out who you are — and jump straight in to a 50-level romp complete with numerous nasties, bonus levels, special stages, hidden rooms

and everything else you'd expect to find in a top notch platformer.

In all there are five worlds to complete, with each one split up into 10 levels. Each world has a particular theme. For instance, the first world is set in woodlands and is populated by marauding bears and big fat birds. Even a twenty-bird lookalike makes an appearance on one stage. Other worlds include a polar region, with polar bears killed out in bubble hats, a horror world, a world made up of boys and the final future zone, with robotic nasties to take care of. The aim of each stage is to collect a set number of gems within a certain time limit. If you fail to pick up enough gems in time, you automatically lose one of the three lives you start the game with.

NASTIES ON STUN

Although there are plenty of nasties roaming each level, their only function is to stun you and thus lose you valuable time. Each encounter will cost you approximately one second as Thomas falls to the ground with stars spinning around his head. Once back on his feet, it's back to



The woods are full of obstacles like this one. Just the thing to slow our hot-headed friend down.

collecting the requisite number of gems. When this is achieved, an exit will open through which you have to escape before the time limit runs out. It's nice to see a platform game which doesn't rely on energy levels and which puts the emphasis on a race against the clock. This is much more fun and really makes for non stop action as you frantically search for the gems.

Just when you think you've explored every possible nook and cranny, and that last gem is nowhere in sight, you'll stumble upon a secret room or cave which will be stuffed with extra gems or find a hidden transporter which will whisk you to another stage packed full of goodies. At times things get incredibly manic, but never frustrating. Thomas is able to climb ropes, cause mini-earthquakes by jumping up and down in certain spots, and can generally dash around each level with amazing speed. I certainly haven't played a platform game on the Amiga which is as fast-paced as this one!

CLOBBERIN' TIME

Of course, no game is perfect, and *Tearaway Thomas* is not without

flaws. Although the nasties can stun you into submission, there's very little you can do to them other than jump on their bonuses for some extra points. This is all very well, but it would have been nice to have given them a taste of their own medicine, or even to have been able to club them off the screen all together. As it is, they merely carry on their way, no matter how many times you crack them on the head. There's also a distinct lack of variety in the nasties. In the early stages there are only one or two different enemy sprites patrolling each level and, although things improve later on, it's a bit boring. A little more planning an originality would have helped things tremendously.

Considering this is David Henney and Nick Frampton's first Amiga game, they've certainly turned in a cracking job. The scrolling is subtly smooth, the graphics palette suitably gaudy, and the speed of the main sprite amazingly quick. At times, as Thomas tumbles about the screen, it's hard to keep up with the pace of the action. Delinately a superior platformer and well worth the price. **A**

buyers guide

release date	Out now
genre	Platform
controls	Head-on tech.
number of disks	Joystick
number of players	1
hard disk installable	1
memory	No
	\$124

GLOBAL SOFTWARE £25.99

Hijinks in a superstar game against the clock

GRAPHICS	82%
SOUND	79%
LASTABILITY	83%
PLAYABILITY	86%

OVERALL 84%



Thomas is a speedy £25 cheap. Unfortunately, as the levels progress he has to grapple more and more games against a rapidly escalating time limit.

**LUL KICK START THE FUN
REARRANGE OF GAMES**

[illegible]

UGH!

Before man invented the wheel he had a go at running a skyborne taxi service. Dan Slingsby catches a lift with a prehistoric high-flyer.

Ugh! is essentially a prehistoric version of *Lunar Lander*. Man has invented a flying taxi, cobbled together from bamboo poles, overgrown leaves and sticky tape (!), and is busily taking out a living transporting the rest of his tribe around these high-rise cave systems. The trouble is the wobbly taxpayer suffers from incredibly bad inertia, so while you're busy piloting in one direction on the joystick it's still travelling in the direction you sent it previously and is slow to respond to any new commands.

The aim of each of the 70-odd levels is to guide your airborne ancestor around the many different cave systems, picking up tribal members and taking them to where they want to go. At first things are incredibly easy. For Instance, level one merely requires you to pick up three tribesmen and take them to a different cave entrance. Later on, things become much more hectic, as the number of trips slowly rises and the number of obstacles increases. These include a flying pterodactyl which swoops in to knock you off course and a charging rhino who kills nothing better than tossing your human cargo into the watery pit at the bottom of the screen.

Landing the craft requires pinpoint accuracy – land too hard and both you and your passenger fly off the screen. All the trips are against the clock, too, and your fee for transporting each tribesman dwindles away the longer you take to complete the journey. Each level consists of just one screen, but each one is suitably different to offer something new. Often, the cave entrances demand a steady hand to reach them as you have to guide your craft through a maze-like construction of cliff faces. There are three difficulty levels in the game and these relate to the number of hits your craft can take as well as the time you're given for completing each stage. It brings us getting tight, each level also has a fruit bearing tree which, when hit by a stone, produces a number of energy fruits. Once picked up, these fruits extend



The last time I used a black cab it was obvious that evolution was something that had passed taxi drivers by.

the time limit, giving you vital seconds to complete the round.

Ugh! is a very well put together game, with smearing looking graphics, real sound effects and some difficult if repetitive puzzles to solve. There is also a neat two player team mode where you have to work in tandem with another taxi service.

Unfortunately, *Ugh!* is a game built around one idea, and a very poor one at that. Players will soon become bored with the repetitive nature of the gameplay. There are few surprises in the game's later levels and the whole thing becomes very plodding after a while. Okay, so there are one or two rushes to take care of and the time limit offers a bit of a challenge, but merely transporting the assorted tribesmen and women from point A to point B and then back again is not my idea of fun. No, you see, I would hazard a guess. Definitely a case of buy before you buy.

buyers guide

release date	Oct Nov
genre	Arcade Puzzle
name	Ego Software
controls	Joystick
number of disks	1
number of players	1/2
hard disk installible	No
memory	612

GLOBAL SOFTWARE £25.99

Superficial gloss cannot mask the poor gameplay

GRAPHICS	84%
SOUND	60%
LASTABILITY	55%
PLAYABILITY	58%

OVERALL 58%



GOBLIINS

Those impish stars of the first GobliiNS game are back with some more devilish puzzles to solve. Dan Slingsby investigates.

The slapstick humour of the original *GobliiNS* game made for an enjoyable, if understated, little puzzle. The cartoon like animation and incidental music, worked a treat as you guided three small gobliiNS on a series of 22 screens in search of a cure for their king's madness. Unfortunately, *GobliiNS 2* is a rather dull and frustrating sequel. Whereas the first game's puzzles were fun to solve, the new game is virtually unplayable as the puzzles are completely unattractive and nearly always logical.

For those of you who like to have a reason for joining in such mayhem here it is. The king's son has been kidnapped by the Demon King and two new gobliiNS have been enlisted to retrieve his sole heir. Fingus is a serious sort of chap whereas Winkie's a bit of a joker and the comic interaction between the two is just as good as that of the first game. There are seven worlds to travel through, each made up of three or four screens, and each is jam packed with an assortment of brain-slapping puzzles and clues to solve. Each character is moved about the screen with a succession of mouse clicks on the required area and this is also how interaction between characters is carried out. There's also a new pull-down menu screen for sweeping equipment and to access new screens. Rather than give the two new characters special

skills, such as object manipulation, strength or magic as in the first game, Fingus and Winkie are just as competent as each other. However, the best here is that one of them will always be more adept at carrying out certain tasks than the other. Finding out which one is best suited to each task, though, is usually just down to trial and error.

Very few of the game's puzzles follow any sort of logic, and this can be incredibly frustrating. If I hadn't been given a player's guide to help me get onto some of the later levels, I'd probably still be trying my best out. There are a few on screen prompts that offer small clues about what to do, but they're just not enough. I mean how was I to know that the chicken had to be hit over the head with a salami, and he'd be killed to death before a world produce the egg that I needed for later on in the game? With such pathetic logic, the game is reduced to a plodding exercise of trial and error. And they expect us to pay 30 quid for this? That's about the only laugh I got out of the entire game. Avoid.

buyers guide

release date	Oct Nov
genre	Puzzle
name	In House
controls	Mouse
number of disks	3
number of players	1
hard disk installible	No
memory	1Mb

COCKTEL VISION £25.99

Poor quality follow-up to the original hitbicker.

GRAPHICS	84%
SOUND	52%
LASTABILITY	41%
PLAYABILITY	30%

OVERALL 40%

5

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Chun reels from one of Zangief's roster punches. The USAF don't seem to mind much.



TOP: If you manage to survive through a few fights, you will be given the chance to choose between various weapons, including a sword, a gun, and a knife. Well, did I say you can't die?



Unlike most versions of the arcade game, Street Fighter 2 Amiga lets you both play the same warrior.



He's down! One quick chop to the throat and Zangief falls, white D. the glory.



Blanka is a knockout! After a particularly nasty knock, players roll up clutching their heads and praying for Amiga.

STREET FIGHTER

Tony Dillon finally gets a chance to show the world that he can dish out a good kicking as well as the next bloke.

IT'S PHENOMENAL

Everywhere you turn, you can't miss it. *Street Fighter 2* has become a phenomenon unto itself; not quite as big as *Mario*, but twice as explosive. The *Street Fighter 2* coin-op has already become a classic of the Nineties, with more than a little help from Nintendo's spot-out advertising campaign. It all seems a far cry from the days of the original coin-op, made famous by its gigantic, pressure-sensitive fire buttons that you literally had to pummel if you were going to make any indentation on your opponent's energy level.

SURPRISE ATTACK

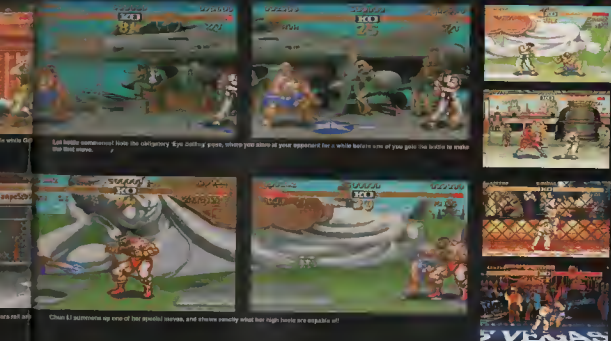
But that was years ago, and now *Street Fighter 2* rules the arcades in a way that no other game has. Nintendo aren't complaining, as their SNES version has become the flagship title for their machine. These are even stories circulating of people being mugged as they

take their newly bought carts home. Has a game ever caused such 'enthusiasm'? I think not. Now, after nine months of solid coding, the Amiga version is unveiled for all to see, and slud in a backroom of US Gold's plush Birmingham offices, I must admit to being pleasantly surprised. *Street Fighter 2* Amiga is as close to the arcade version as a 68000 with a single fire button is going to get.

In case you didn't already know, *SF2* places you in the middle of the hottest street competition ever. The best lighters from around the globe have been gathered to bottle it out in a series of men-to-men style rucks against the clock to find out who exactly is the 'ardest geezer on the face of the planet. Eight persons (six male, one female and one thing) from locations as diverse as Japan and Brazil come together to fight it out, and all of them make the WWF wrestlers look like a bunch of ballet enthusiasts. Single

player, you have to work your way through them all to take the title. Not that you can just walk in and take the title, of course. Once you have defeated the seven basic opponents you have to fight the four big bosses. That is where things get really hard, if they weren't hard enough already. Alternatively, you could just stand to one side and let them all give you a kicking. Defeat the four bosses, and you've beaten the game, or have you?

Two player, the action really heats up. Needless to say, this is a very violent game, and there can be little as entertaining as knocking seven bells out of your friend/brother/sister/whoever. If you think that selecting different characters creates a disadvantage, then you'll be happy to know that the Character vs Character mode from the Championship Edition has been added (but accessed via a cheat mode) so you can both be Blanka



Let battle commence! Note the obligatory 'Eye Destroy' pose, where you stare at your opponent for a while before one of you gets the bottle to make the first move.

Chen Li summons up one of his special moves, and shows exactly what his high heels are capable of!

FIGHTER 2

and spend many an hour rolling at each other.

BONUS BASHING

Don't worry, though. It's not all mindless fighting. There are a few bonus stages to fight your way through. Look! There's quite a late on in the game (after the 7th fight, after the first boss and just before the last boss) and are based on the arcade version rather than the SNES. Your first challenge is to wreck a car in the shortest time possible. You're up against a time limit, and if you manage to turn a once fine family saloon into a pile of molting slag, you'll get yourself a handy bonus! To demolish it, you simply have to punch and kick the various parts (headlamps, bonnet, engine, windscreen doors, etc.) until it collapses in on itself and the police drag you away for vandalism.

Next comes the bouncing barrels. You stand at the bottom of the screen while someone throws beer

barrels from somewhere above the screen. The barrels fall onto a small platform above you. After that, they could fall in any direction - you can't tell. All you need to do is smash as many of them into pieces as quickly as possible. The problem here is that the barrels are actually filled with Mexican jumping beans, so anytime the barrels bounce, they could bounce either way, just like the balls in *B&K* could change height. Should you be hit by a barrel, that's the end of this particular bonus stage.

Finally, you are confronted with three piles of oil barrels which, yes you guessed it, you have to smash to smithereens. However, every time you hit a barrel it sends out a lick of flame which incinerates you on the spot, so you have to move fast. Well, I don't say it wasn't all mindless violence, did I?

To be honest, I kept away from the arcade machine for quite a while. I don't like hype, so I thought

the only way to judge it fairly would be to play it once the hype had died down. Sticking in my coins, I assumed it was going to be 'just another beat'em up'. How wrong I was! If you haven't played it, and let's be honest, who hasn't played it at least once, then you won't know that this game has more to it than the repeatedly slab at the foe button while thrashing the joystick about and hope you get a hit on them first! Variety, where your only advantage is the speed of your index finger. *SF2* involves the careful planning of moves, as well as the reactions to use them at the right moment. Going in headlong isn't going to win any battles, so save that for the pub.

SIX FINGERED FIGHTERS

Unfortunately, the original arcade version has six fire buttons. Three for punches and three for kicks. That, plus the fact that secret com-



A1200?

Many Amiga owners are already powering the family silver to get their hands on a new A1200. However, how many will experience that old sickening feeling when they find that their career collection won't work? *Six Fingered Fighters* is fully A1200 compatible, you'll be happy to know, but at the moment there are no firm plans to release an A1200 special version. If night happens, we're held, but we'll add the machine at next year. It's worth waiting for something 256-colour backdrops and the enhanced sound, we ask ourselves?

THE FIGHTERS

Eight computer opponents might not seem like much in three days of digitized amusement, but someone will you find a bunch of nuts as hard to crack as these. Here's the full run down of who you'll be taking on.

EDMOND HONDA

We've all seen Sami wrestlers. Great guy like it fast (but don't seem to do anything more during their time on a people, but Edmond, he's the moment of their life, and knows how to use his 300 pound frame to his ultimate advantage. Favorite tactics include squashing, thrashing on, and trapping in small gloves before pushing into the dirt.

Through some fortunate initial execution, Edmond is able to channel his full impact of his body through the leg of his head, on a Sami head but to something to be avoided - along with his amazing hundred hand hug.



RYU

Ryu was once a simple buns boy. Now he's a simple killing machine. He was trained from a very early age by his master, Sheng Long. Dedication is one thing, but this guy has seen more than happy enough to drop everything else in his life for the sake of combat. A fierce fighter, he hides a cascade of moves up his sleeves, including fireballs and scorching hurricane kick, which send him sailing at extremely high speed in the air. Three of these and you're on your back. If that isn't enough, then how about the vicious Dragon Punch. Ryu practiced his years until he mastered this diving punch.



GUILE

Guile is braced off. After a custom Special Forces mission in Thailand, he was captured, tortured and kept prisoner for longer than he could care for. Now he's back and is determined to take his share of any action that's going. Guile's special moves include a lethal Sonic Boom, created by swinging his arms at Mach 2. It's not done 1 grab you enough, then he's about as angry as a hammer created by some seriously fast kicking or a back breaking body-drop throw if you get too close?



DHALSIM

Take children's favorite Pinocchio. Now wrap his mind on that the only thing he has concentrate on is destroying people and you've got Dhalsim. A true master of Yoga, he can change his size and shape to a certain extent, but only for enough to cause pain for other people. Dhalsim will catch you... wherever you are. His party press is a flaming throwing to back quite a few people away, now I come to think of it and breathing fire. Wakes you think twice when you ignore advice in the street, doesn't it?



binations of these along with timed movements of the joystick, brought up special moves such as fireballs or an electric field made the Amiga version a tad different. Programmer Tony Buckley had to give some serious thought as to how to translate the controls to a single button joystick or even twin button joypads, such as a SEGA controller. At one point, Tony even considered bundling a special six-button joystick with the game, but found the costs involved too prohibitive. What he came up with instead is a game with standard 'em up controls, but which still gives the tactical feel of the original game. By thinking logically, USG have managed to

come up with a way of using all 32 moves from a standard eight-way joystick and life is how it works.

While standing, without the fire button pressed, you have eight moves open to you, such as walking, jumping and crouching. Pressing fire then allows you to select from the first set of attacking moves (one kick, four punches). If you crouch you can select another eight attacking moves, as you can while in the air. 8 plus 8, plus 8, plus 8 makes 32!

On a two-button joystick, things get even easier. The eight way controller moves your character around in much the same way, only now one fire button controls the

kicks and the other controls the punches. The big difference here is that now there are two versions of each kick and punch. Pushing the way the character is facing makes them attack with their leading limb, whereas pushing in the opposite direction makes them use their trailing limb. Easy, huh?

KARATE CHOP

Of course, you can take a game as memory-hungry as SF2 and fit it into an Amiga without some chip chopping, and the first thing to go were some of the special moves. In the arcade, each character had up to five special moves. On the Amiga, each has only two. Thankfully, they are all documented in the manual, so you needn't spend half your life trying every combination you can think of.

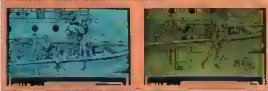
As far as presentation goes, the

game is almost flawless. Perhaps lacking some of the speed of the original in places, all in all, the game is as close as you could come. The sprites are massive, it must be said, and the pleasing thing about this game is, unlike other titles with similar sized sprites (*Sword Of Sodan*, for example), the animation is as fluid as you could want. Each character has an unbelievable 225 frames of animation! The sprites alone take up around 5Mb of memory! And that on top of the glorious 32 colour backdrops makes for a fairly stunning looking game. It doesn't look exactly like the arcade machine, though, but that's just because the Amiga can't generate the same sort of screen immensity that arcade cabinets and consoles can.

A great deal of attention has been paid to the sound too. Not

SPECTRUM VERSION

For those of you old enough to remember the Spectrum, or indeed to have actually owned one, will be pleased to know that the Syncozy version of *Street Fighter 2* is also looking rather good, given the limitations of the machine. Why am we mentioning this? Well, when we saw it up and running we all got a bit misty-eyed and just had to tell you a story. It. Yes, we know, we're old and it's when it comes down to it!



He may be a hardened marine with a mission, but that doesn't frighten Edmond Honda. One shove and he's down.



Nothing like a good kick in the teeth to even out the odds. Especially when your legs are as stretchy as Dhalsim's.

CHUN LI

The only woman in the contest, and a woman with a mission, at that, Chun Li is here to track down a secret organization called Shadaloo. And if she has to kick a few butts on the way, well that's just dandy with her. A nimble acrobat with fire, hot air, superpower, and a taste for responsibility for setting this scene, her looks to charm her opponents while, while underestimating her strength, are rewarded in some of the high kicks seen in her only speciality either.

Lightning Kicks are as fast as their name suggests, and if you think you can take any more, then how about a couple of Whirlwind Kicks, where Chun Li spins like a top. From which point she'll attack to on the fly a guess.



BLANKA

If he's five inches of pure muscle and has this in his head that'll never get the heavy Ram in Brazil, he has spent most of his formative upbringing by leaping at them from the jungle. Only recently did he step forward to challenge anyone who was asking for a fight.

After spending a large part of his life studying electric eels, Blanka can charge 1000 volts through his skin without blinking. While his opponent is reeling he shock he strikes back with his second special move, a rolling attack that forms part of a critical game of fencing.

After spending a large part of his life studying electric eels, Blanka can charge 1000 volts through his skin without blinking. While his opponent is reeling he shock he strikes back with his second special move, a rolling attack that forms part of a critical game of fencing.

ZANGIEF

Zangief, the Russian with the monster, loves his nuts and his country. Adjustable stiffness, wouldn't you say? The problem is, he hasn't everything else, and seems to use his wrestling skills on others as possible, if you've never wanted to be spun dry, or would like to know who is with you head, then this is the guy to help you achieve your goal.

His favorite moves include the Spinning Chokehold, useful for avoiding linchpins and causing heavy amounts of damage to opponents, and the Spinning Pile Driver, only instead of spinning you as a jack hammer, he uses you as a giant drill bit. Ouch!



KEN

Ken's superhuman strength and attitude defines him matched only by his ego, which is not considering he has come last ranks with Kevin and Jarry in the hard-core stakes.

As a former disciple of Gouken, Ken can create fireballs with minimum fuss, and can manage the old Dragon Punch and Hurricane Kick. The only need of his now is that Ken could have Ryu. Anytime. With both hands behind his back. So on. Outside. Now.



surprising, really. If you think of the difference between hitting someone and hearing a slight pop and hitting someone and hearing a car door slammed. Just look at the Rocky films to see what I mean. Creative Materials obviously think that the arcade versions had just the right effects, as they've sampled all the sounds for the Amiga.

The game is fast. Perhaps not as speedy as the SNES, but then again your basic Amiga isn't built with the same graphic chipset as a SNES. It does, however, run a lot faster than the rolling demo on the cover of last month's issue, so don't be too put off.

But, after all this, the proof of the pudding is in the playing, and playing *Street Fighter 2* is immensely enjoyable, right from the word go. I have to admit, I was surprised especially when you

consider that Creative Materials were the least responsible for *Final Fight* which received a paltry 50%. The thought that has gone into the control really pays off when you pick the joystick up for the last time and find you can lay a pretty formidable offensive line, if not exactly the most tactical or defensive. *Street Fighter 2* is very playable, and genuinely does stand head and shoulders above any of its rivals. Naturally it'll take some time before you'll be able to use all the moves to their fullest advantage, but that's part of the fun.

AH SO!

If you SNES-owning friends have been driving you insane with zeal only, now's the time to strike back. OK, it isn't arcade perfect and the SNES version is. On the bottom line, though, it's a perfect example

of what an Amiga beat 'em up should be, and an excellent conversion of itself. Without a doubt the best beat 'em up to ever grace the Amiga, even better than the labbed *4K*. Whether it will hold that position for long is uncertain, as rumors currently floating claim that an *IK-2* is on the way, although the same rumor states that Archer Maclean may not be involved. For now though, *Street Fighter 2* is the thimble to have. Fine the fact that it's had the cost of the console version, you can't really go wrong. Well done, US Gold. ☺

ARCADE VERSIONS

With the possible exception of *Space Invaders* and *Breakout*, there has been more or less every variety of the genre machine in the history of the world. At last count there are no less than 13 different *Street Fighter 2* games knocking about the place, including *Street Fighter 2: The Arcade*, in which you can pit two players to point each other with the same characters. Also, due to hacking, there are eight different SNES versions floating around, some of which allow you to jump that little bit higher, or let you do two dragon punches for the price of one.



Here the two players choose which battles they're going to try to keep alive. The map at the top shows where the next battle will take place.

buyers guide

release date	Out Now
genre	Beat 'em up
team	Creative Materials
controls	Joystick, Joypad, Keys
number of disks	0
number of players	2
hard disk installable	No
memory	1 meg

US Gold £27.99

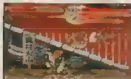
The best beat 'em up on the Amiga - ever!

GRAPHICS	91%
SOUND	86%
LASTABILITY	82%
PLAYABILITY	87%

OVERALL 90%



A muscular frame by Ken, who will no doubt fight about it in nearly here later. By the way, don't lay this move at home!



Let's face it, it can't be easy hitting and throwing something that large, but Gouken's got it. Give the man a round of applause!



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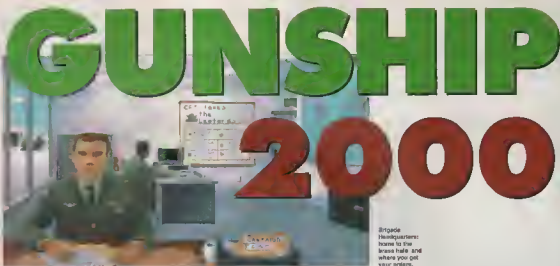
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Brigade Headquarters: here's the brass half and where you get your orders.

Keeping death off the roads and putting it back in the skies, where it's so much more fun, is Microprose's formidable flight sim. Steve Prizeman, of the CU Air Cavalry, took it into the wild blue yonder.

TAKE OFF

What does "longna" mean to you? How about "collective cyclic"? Blade still and air compressibility? If your response is "Eh?", the chances are you're not familiar with the principles of helicopter flight. Don't worry: in *Gunship 2000* the basics can soon be grasped, and even a novice at copier flight sims can get his whirlybird airborne.

The ease is not because Microprose have skimped on realism, on the contrary the game diligently endeavors to recreate the feel of helicopter flight. Recognising that many users of the game will be more familiar with fixed-wing flight sims, the hefty manual provided includes a 3D page section on the theory and practice of flying rotary-wing aircraft. Don't be deterred by the catchy opening line ("Flying a helicopter is a lesson in the physics of vectors..."), the copiers prove easier to handle than the overpow-

ered jets featured in most flight sims.

If you don't want to fly by the seat of your pants, handling all that the elements, and the physics of vectors, can throw at you, *Gunship 2000* allows you to switch on certain in-game helps. For instance, obstacles on the terrain (hills) may be automatically avoided, wind can be switched off, clear visibility can be guaranteed, and the altitude of the copier can be separated from pitch, roll, and airspeed. If you like delegating, there is an autopilot, and control of the copier's weapon systems and counter-measures (chaff and flares) may be passed to the computer which takes the role of your copilot/gunner. Even the quality of the enemy forces you'll be up against is adjustable, ranging from pool to elite.

BAIL OUT

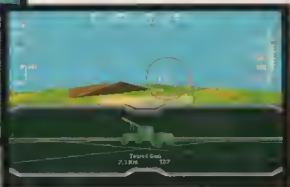
But what do you do in the game? A variety of missions, set either in Central Europe or the Persian Gulf, are available. As you might expect, most propel you into combat-point Attack (go to a set target and kill it) or Search & Destroy

(roam around, find something, then kill it), etc. What distinguishes *Gunship 2000* from most flight sims is that this is a multi-copier game. Once the player's character has risen through the ranks from Warrant Officer Candidate to Second Lieutenant (That's too-tenant to you, boy!) a whole five helicopter flight may be brought under his command. More sophisticated operations then become available: Reconnaissance Tactical Support (transporting troops, supplies and wounded), Deep Sink and Search & Rescue. The flight may even be split into two units and sent to different targets.

In recognition of the number of units in a flight, and the variety of tasks required of them, seven different helicopters may be used. In addition to the AH-64A Apache Gunships which give the game (and its predecessors) its name, Longbow Apaches, SuperCottas, Comanches, Kowas, Blackhawks and Delandees are also available. Their weaponry, ranging from chain-guns to laser-guided and radar-homing missiles, ensures that



Wings of the Apache? Your favorite gunship, loaded-up and ready for the air.



Longbow Apaches, Kowas Warriors, and Delandees have well-armed cameras giving an early warning of enemies over the horizon, before they even know you're coming. Naughty, but smart.



Up, up, and away! The gunship takes to the air. Anyone crossing its path will wish they hadn't bargled with it, cause it's in a real-sarrrrrrrr mood!

Rugged terrain, the river valleys and hills, has to be negotiated whilst flying through Central Europe. Missions in the Persia Gulf don't have such problems - they just have lots of mean enemies looking for suckers like you!

you'll not only be flying some of the fastest, most agile machines around, you'll also have the deadliest

CRASH LAND

In the geopolitical world of *Gunship 2000* the (former) Soviet Union constitutes the probable source of opposition for Central European missions, showing perhaps that Cold War or no Cold War the ex-Soviets are doomed to be the bad guys in strategy games for years to come. They may have to queue for rationed cabbage, but they're certainly no push-over in the skies: watch out for Hind-E and Havoc gunships, not to mention the new Hokum purpose-

built for anti-helicopter combat. In the Persian Gulf no prizes for guessing that the Iraqis are the main threat, so there is plenty of opportunity to play Saddam-busters.

Multi-copter missions are not compulsory, however, so if you prefer to go it alone, single helicopter missions (and training exercises), may still be selected. Your ultimate objective (if the thrill of flying isn't enough) is to reach the rank of Brigadier General by your 59th mission. If you don't get such a distinction you can still have a respected retirement as an instructor,

passing on your skills to the young bloods who will follow you. Intrepid pilots may even pick up Purple Hearts and the Congressional Medal of Honour for their efforts.

Graphically, *Gunship 2000* shares one common feature with most flight sims: however good the intentions behind it, the landscape just doesn't look very realistic. The degree of detail can be changed but still never convinces. But, like I said, this seems to be par for the course with flight sims, and *Gunship* shouldn't be penalised on that count. More important is the way the movement of the copter relates to the simulated ground

beneath it - and that is conveyed well. External views may be taken, from behind the copter, following the flight of a missile, or looking (anxiously) from the position of the target you're firing at. The Inter-lights screens are well drawn, and often pretty animated. It is nice to know a sense of motion has been included also - click on the VDU in Brigade Headquarters a few times and see what is occupying the officer's attention.

Gunship 2000 is, in short, a thorough game which will test your tactical combat skills as well as your flying ability.

MICROPROSE	
release date	Out Now
genre	Flight Sim
from	En-Route
catalogue	K J&K Men
number of disks	4
number of players	1
hard disk installable	Yes
memory	1MB



GETTING HISTORICAL

We just need one more bit of trick for the helicopter - Leonardo da Vinci's control with jannets the Mona Lisa and inventing every other something in history, da Vinci designed a rotary-wing aircraft in the late 15th century. Working models were produced, but the real thing never got off the ground - just as well, if the da Vinci or the third hand got their hands on helicopter gunships we'd all be speaking Italian today. Fusées d'Artifice, a Frenchman, invented a steam-powered helicopter in 1782. Although it never flew, it convinced sufficiently to show that the basic idea was worth acting. In the world of the problems of finding an adequate power supply to lift such a craft would be enormous. In 1907, following the Wright brothers' initiation of fixed-wing manned flight, and the invention of the internal combustion engine, Paul Corde (also French) invented the first working helicopter. He did not fly it, or high, but what was important was that he did. In 1910, the French helicopter P.V.I., designed by Dr Henriett Rodolphe Fournier, took flight on the first helicopter suitable for practical use. Being in Major Germany, however, the practical applications of the helicopter were probably limited to a military drinking vessel afterwards. Flying for the first time in 1940, Felix Flattich's PZ 302 Helirotor, recognised as the first military helicopter. From 1942 it was being levered from German warships, and later variants were employed in tactical-theatrical against submarines. Also in 1942, in America, Igor Sikorsky's XO-4 went into service with the US Army. Employed for resupply, delivery, and anti-submarine work, this type of helicopter became the first to conduct a search and rescue mission - going to help Japanese from Borneo in 1944 in response after had passengers from a downed aircraft. By the end of the Second World War, over 400 Sikorskys, of various designs, were being used by British and American forces.

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SOUND	79%
LASTABILITY	85%
PLAYABILITY	81%

OVERALL 83%

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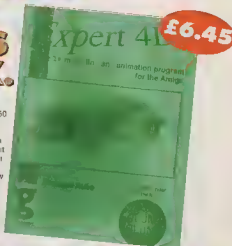


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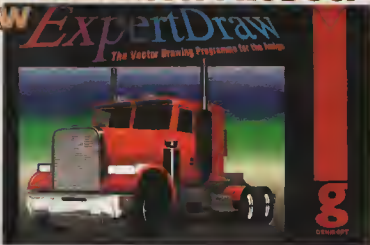
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If you are traveling between locations then you will be treated to a variety of these digitized static screens for you to look at whilst the game processes the disk.

Tony Horgan sticks on his Cossack hat and journeys into the seedy world of the Russian Secret Police.

PSYCHO PITBULL

If there's one thing more troubling than being locked in a cupboard with a disturbed pitbull terrier, it's the reputation of the KGB. The now delunct Russian Secret Police were so sneaky in their methods that no-one even knew what the letters KGB actually stood for, let alone their methods or what they got up to. Since the fall of Communist rule and the subsequent democratic changes that Russia has witnessed, information about them has become much more accessible. Virgin obviously feel that it is now safe to release a game based around the exploits of the not exactly-pleasant Soviet gods and hence here's the arrival of Coyo's new graphical adventure.

In the game, you play Captain Maksim Mikhailovich Rukov, a newly appointed member of a sub-division of the KGB, entitled Department P. A private investigator has been murdered and you are in charge of the investigation. Whilst the death of a P.I. may not seem particularly important, it soon transpires that this dead detective used to work for the Secret Police and your boss, Vovse, wants to make sure that there are no state security implications involved. The investigation soon evolves from a simple murder inquiry to the discovery of a vast, sprawling



The inventory can hold an almost infinite amount of objects and from this screen you can look at them more closely or manipulate several items with each other.



The many end of game screens are not exactly graphically gruesome, but the text descriptions leave little to the imagination.

plot which threatens the position of the then-President Gorbachev himself, but I won't spoil it by going into details.

HUGE ADVENTURE

The adventure itself is huge to say the least, and it's going to take even the most hardened players a good deal of exploring before the main part of the investigation is even touched upon. There are plenty of people to meet and interrogate and much of the puzzle aspect of KGB is derived from discovering the right line of questioning you need to adopt. One false word to anybody can often result in the sudden end of your career or life, but rather than prove frustrating, as is the case with some adventures, the handy addition of a 'backtracking' option means that you can often retrace your steps and by other combinations of questions which will, hopefully, result in a successful outcome. The game is quite time sensitive as well, so it is extremely important to be in the right place at the right time.

You would be forgiven for thinking that the hard edged world of the KGB might make for a seemingly depressing game, but you could not be further from the truth. Right from the start, when flicking through the manual, you can see that this is one game which will not be upping the national suicide

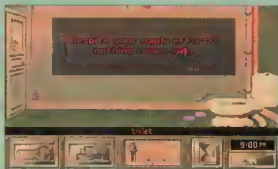
figures. 'Beware of letting your disks fall into the wrong hands! Capitalist agents are everywhere, and any unlawful copying or distribution of these disks will result in the ultimate failure of our mission! You have been warned,' it proclaims, wisely. There's plenty of laughs to be found in the game as well, mainly adult Russian-type gags, but laughs nonetheless. In your bedroom, for example, you encounter a likely-looking mermaid and clicking on it reveals a list of options, one of which is to 'place yourself under visual observation' which, when selected, provokes the response 'good idea - report anything suspicious!'. In another instance, Rukov stumbles into an office only to find that a certain gentleman is in extremely 'close consultation' with his rapidly blushing secretary if you know what I mean. It's not often that a game actually provokes laughter with some consistency (I can only think of Monkey Island 1 & 2 off hand) and so it is refreshing to find a game which continually hits the giggles button with unnerving accuracy.

WHAT PROBLEM?

A major problem that some first person perspective adventures often have is the player interface. In Wewer, for example, there was far too much selecting from a menu bar at the top of



There are many hostile places in KGB. You'll need to be particularly clever if you are to visit this club without ending your career prematurely.



There are a few toilets to be found in various locations and if you attempt to use them you'll be treated to this typical example of the game's, shall we say, toilet humour.



Whilst chatting to people, the game often cuts to these close-ups, revealing a character more fully. This is Uncle Vanya, a disabled gimp who often grumbles when you attempt to converse

the screen, something which is never user-friendly. In contrast *KGB* positively overflows with ease of use and the interface it employs is a joy to work with. For the bulk of the game the smart pointer is in use, which changes as you move it around the screen. If you place the pointer over a locked desk, for example, it will change to 'look'. If you want to move through a door then simply point at the door and the icon will change to go. If you are not happy with the option the smart pointer offers you,

then pressing the right mouse button will reveal a list of alternatives. The smartest feature, though, is the very that the 'look' pointer flashes when passed over an interesting object in the current location. This ensures that you don't have to search everything in any given place. The save game option wrecks of nose-friendliness as it automatically inputs a filename along with a score saving

Conversations are conducted via a series of pop-up menus which build in complexity throughout the

adventure – the more you learn, the more you can talk about. These menus always appear roughly in the middle of the screen so, once again, there's no unnecessary cursor movement, a feature that will please adventures who possess a dodgy mouse (like me).

SCRAPPY MUSIC

If there's one thing that lets the game down slightly, it's the music. It's a funky track which, although sounding very pleasant, actually feels out of

place in Communist Russia. I can't imagine how the musicians arrived at the finished piece – do they think that the Soviets are constantly dancing?

Overall, though, *KGB* is one of the finest graphical adventures available to Amiga owners. Its ease of use and humour elevate it from being just 'very good' to 'flipping excellent' and it must surely rank as a must buy for all serious gamers. ■

buyers guide

release date	Early January
genre	Adventure
team	Cryo
controls	Mouse
number of disks	5
number of players	One
best disk available	No
memory	1MB

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✓ An essential buy for all Amiga adventurers

GRAPHICS	91%
SOUND	83%
LASTABILITY	91%
AVAILABILITY	91%

OVERALL 90%

KNOW WHO YOU'RE DEALING WITH

Newcomers to the violent world of the KGB could be forgiven for not agreeing with many of the organisation's methods. They are not renowned for being easy to deal with and always expect 100 percent co-operation and success. Anything less and they might well introduce you to the KGB Book of Torture – something which is enough to persuade even super tough psychos to tow the party line.

The first thing they are likely to try is sending a couple of hard-ons round to your home with nothing more than a couple of fists to give slackers a proper going over, perhaps stopping only after a few nbs have been broken. Whilst this may be enough to put off the majority of people, sometimes even tougher measures are called for, like the introduction of rubber hoses, for example. Rather than coming round to water a garden, the hoses serve as whips to inflict visible damage to the skin, leaving a clear reminder of what can happen if anybody messes with them. After this you are in Extreme Pain City because these methods become even more (mis)lucky (terrifying. How would you like to be bashed around with a sack filled with iron at your nether regions brim with hot plates? (Put your hands down Frank Booth.)

If it's information they are after, and the pain tactic isn't working, they will almost certainly resort to drugging a suspect using a variety of illegal substances. These doses are increased until fetics are cleared, and if the suspect isn't exactly forthcoming with the goods then the dose can become so large that it can sometimes prove fatal. Someone who knows too much may well find themselves missing a tongue before too long, as the KGB don't often trust anybody outside the ranks of the organisation to keep their mouth shut.

With this new knowledge you can hopefully see things under a different light and have a little more success in the world of the KGB.

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The four possible starting points. Choose whether to face the whole scenario, or just join in at the end

Have Virgin Games really managed to capture the comradeship of World War 2? Tony 'Goggles' Dillon cries chocks away...

REACH FOR THE SKIES



Bringing in to meet the German attack. They may look close, but they're probably a lot closer than you think.

(AIR)BORN CYNIC

My first thoughts, whenever loading a combat simulation of this type, are always cynical. With the exception of Microprose's *Knights Of The Sky*, I can't think of any flight simulators that have successfully created the feelings of playing as part of a team in the middle of combat. This is no exception.

In *Reach* you are posted on the south-east coast of England at the start of the Battle of Britain, and have to work your way through the entire campaign. Starting off with defending supply ships against enemy attacks, it works to a frenzied battle as we enter the blitz. At the start of the game, you choose who you want to fight for, either the RAF or the Luftwaffe. As part of the silly old Royal Air Force, you'll spend most of your time taking out German aircraft, whereas should you join the Hun, you'll do all sorts of strikes, both air and ground based. Once the side is selected you have to choose between being a pilot or a controller. The only real difference between these two is that a controller



Two of the more useful views. Top: the rear view mirror actually works, giving you an all-round view

gets to do things between missions and a pilot will hop from mission to mission, joining in whenever needed, and generally soak up a lot of short-term glory. A controller is the person who makes all the big battle decisions, such as what sort of defensive moves should be made, and by how many pilots, in which sort of planes

and from where. In this game, you have the option of planning the strategy first as a controller and then actually switching to become a pilot to fly in the battle.

BREAKFAST

As a pilot, once you've selected the first mission you're given a list of which strikes are happening this day, and can select the one that most appeals. *Reach*'s programmers have provided the player with two control options - simple or easy. In simple mode, the four joystick directions bank and tilt your plane in the usual way, and the fire button or substitute fires your only weapon, a short range machine gun. Plus and minus keys control throttle and the number keys allow external views. A basic control panel gives equally basic information, and a text box at the top of the screen displays radio information. Regular digital flyers will feel right at home, although the lack of any radar is a bit disconcerting.

If you want to make things a little easier, there are two automatic systems which can be switched on. Firstly, there's the autogun. Once activated, should an enemy plane stray across your gunights, the computer will open fire. The other system is an autopilot, which is used to get you to predestinated points without all the fuss and bother of navigation. There is another use for these two systems, but I can't understand why it is included. Pressing return brings up 'combat view' which is an external view of your plane with the nearest enemy craft centred on screen. Pressing 'L' looks that plane as the main target. By switching on both automatic tools now, the computer will follow the selected plane and open fire on it - dogfighting on your behalf. As dogfighting is the main point of the game, this does seem to destroy the point of playing as a controller.

Things improve when you play as a controller. Between missions, you are shown a map containing all your submarines, and all the enemy activity. This allows you to choose how to fight back. By using a very simple point'n'click system, Virgin have man-

aged to move this away from the tabletop game it is, to a more enjoyable break between flying. Not exactly taxing, but it is nice to see the differences between decisions, and how they shape the outcome of battle.

FOLLOW MY LEADER

The polygon graphics are quite astounding. The planes look realistic, and by using bit-mapped graphics for explosions, it is very satisfying to blow an enemy plane out of the sky. But when things start moving, the graphics lose credibility. For a start, distance between yourself and other craft is impossible to judge, as a Spitfire changes in size from being a single pixel in the centre of your view window to fill it in a matter of a second or two. The biggest problem with the graphics, however, has to be the joystick. Either the mistaken and aircraft in WW2 could travel at speeds exceeding Mach 2, or there's some serious miscalculation somewhere. The most irritating thing about this game is the way that enemy planes can disappear as you watch them!

Reach For The Skies could have been amazing. There are so many good ideas in the design that it seems such a shame to waste them by making the game unplayable.

buyers guide

release date	retail cost
genre:	Flight simulation
system:	Reason Software
controls:	K,J,M
number of disks:	3
number of players:	1
hard disk installable:	Yes
memory:	1Mb

VIRGIN £25.99

6 Excellent ideas poorly

implemented. A waste.

GRAPHICS	65%
SOUND	69%
LASTABILITY	58%
PLAYABILITY	56%

OVERALL 59%

PLAYING BY EAR

When it comes to drumming up excitement in a game like this, nothing is more effective than lots of well thought out sound effects. *Reach For The Skies*, while for the most part sounds like any other airplane sim, does have its moments. For example, sampled speech is used when radio messages come in. Although there are only a few messages, they do add to the atmosphere slightly. For example, when Blue Two yells 'Some trade for you', you know that trouble is coming!

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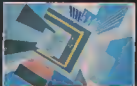
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DOMARK

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LEGENDS OF VALOUR

A role playing game that's good enough to be a simulation? Tony Dillon is intrigued...



OLD HAT

Polygon games are becoming old hat. As more and more vector based simulations fly from our screens, Amiga owners are becoming desensitized to the idea. Even Ocean's *Epic* or Braben's *Elite* if seen 18 months ago. Basically, people are getting bored with huge multi-calculated mathematical shapes. This is something that also started to happen in the PC market, and led to one of the most impressive pieces of Public Domain ever seen - *Escape From Colditz* is a speedy 3D adventure that has you racing around a floor in a German prison. I can't recall anyone not sitting back in awe the first time they saw it. The reason? A breakthrough in coding - texture mapped polygons.

Just in case you aren't entirely sure what texture mapping is, on its base level it's taking a design and pasting it onto a polygon. As the polygon is manipulated, so the design is mapped onto it, so if you were to shrink the object, its surface detail would shrink accordingly. Origin soon caught onto this and came out with *Ultima Underworld*, a *Dungeon Master*-style romp for the PC. Many Amiga owners have been

green with envy since then. Well, now's the time to return to your normal colour. *Legends Of Valour* from Synthetic Dimension (whose role call includes Kevin "Corporation" Bukner and Paul "Mercenary" Woskwa) is arguably one of the most impressive pieces of coding since the Amiga began. But before the high praise - recap on the story so far.

CASTING COUCH

Your part in this adventure begins at the gates of the city of Milledorf, where you have come to track down your cousin Sven. From that point, things start to get a little complicated. The King has been overthrown by his cousin and the town is in a spot of trouble. The sort of spot an Oxyacetylene torch couldn't remove, let alone Oxy 10. The manuals give little information about what you have to do - well, nothing too obvious anyway, so you have to work your way through this huge township, find out what the quest is, and then complete it.

Ah, but if only life were that simple. Along the way you'll need to join guilds and rise through the ranks by performing small but complex tasks in order to attain full

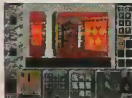


As you work your way through the game, one of the things you are bound to become proficient in is magic. Here you see a Complete spell book. You'll start with the arrow in the corner.

status in every profession before you can even contemplate the full quest. This game is massive in every respect, so let's take it a step at a time.

The first thing to do before you can partake in any of the game's action is to work out exactly who you are. This is done at your home village via the character generator

Here you can select whether to be male or female, as well as human or elfan. After that there are the usual choices to make, such as which weaponry and armour to buy, and then the less standard option of lace building. By interchanging eyes, noses, mouths and hair styles, you can build up the face of your adventures. Believe it or not, this does



The temple at the end of Pillar Walk. Join the Guild here, and you receive some rather nice perks, such as free healing.



If it's a room you're after, or just looking for a line to eat, then you can't go far wrong with one of the local taverns.



The Villain's Zoo - one of the first places you should find (left at the main gate, first door on the left). Watch out for the Gnomes! Troll!



Underneath the city lies a vast forty miles of tunnels, inhabited by all sorts of creatures, just like London Underground.

081 889 9172

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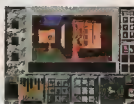
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Here walk, one of the more memorable locations in the city. Using landmarks like this, along with the accompanying map, is the only way to find your way around one and a half square miles.



Awaaaaah! I'm under attack from a horrible monster! If I get bitten, I can be arrested!



On the inside looking out. Burldrugs are great places to hide when the police are after you.

make a difference in the game.

That done, you step into the game and sit quivering for a bit. If you loaded the demo on November's coverdisk you'll already know how amazing the graphics are. If you haven't, go away and load it now, and come back to me when you've done so. Now you can see what I mean when I say texture mapped polygons. Running on a big standard A500/500+600, the game is impressive to say the least. Stick it on a faster machine and the game becomes more realistic than Virtual Reality. Walking around the city you can't help but be amazed at creaking walls and buildings scroll past you smoothly, and even change colour depending on the time of day. They said it couldn't be done. How wrong they were.

CONTROLS

The viewing window is quite small, only taking up about a sixth of the screen. This might seem odd putting at first, but after a couple of minutes of play you stop noticing. As for the rest of the screen, the bottom half is taken up with an array of icons and readouts. The icons are divided roughly into three sections, with the movement bank taking up the middle of the screen, the compass on the far right and a bunch of action icons between the two. Action icons include simple things like 'talk', which brings up a menu of call-games such as 'Where is' and 'What

is', and spell casting, which opens the pages of your spell book and shows the spells you currently have to hand.

Now, on to the serious business of playing the game. It can't be mentioned enough times, so here goes again — the game is enormous. The city itself measures a mile and a half by a mile across and is built on three levels (ground floor, first floor, dungeons). The dungeons themselves are composed of around 40 miles of tunnels and passageways making just the dungeons far bigger than the combined maps of *Eye of the Beholder 1* and *2*. There are actually thousands of characters to interact with, too, though the program only really keeps track of the 256 closest to your current location. These people all go about their daily business and might even attack you for no other reason than the fact that they don't like you. This is where the face construction comes in. When



One of the most unusual things about this game are the transparent windows.



Some of the design is reminiscent of a rather spacious Tolkien town.



Just check out that brickwork. Good old MINIMAX machinery that, you won't find elsewhere like that in any of those foreign towns, or any other game, for that matter.

you have built your character, you are given an appeal factor dependent on what you look like. As the character develops and becomes more important, the appeal factor rises, so people won't attack or provoke you so often. Who said looks don't count for much?

I won't beat around the bush — *Legends Of Velour* has knocked me out. This game is one that'll keep me playing to the end. At the moment I'm considering moving Christmas to sometime around the end of April just so it doesn't get in the way of this game. If you don't own a copy, then get one. Otherwise, get rid of your Amiga. You obviously don't want to put it to good use.



Exploring every nook and cranny is an absolute necessity. Even if only to take a look at the beautiful locations.

buyers guide

release date	Out Now
genre	RPG
item	Synthetic Dimensions
controls	mouse
numbers of discs	3
number of players	1
hard disk installable	yes
memory	1 Mb

TAKING CONTROL

A game that lets you (not) around to full 3D shouldn't be strided with lion control — that's the message that comes from this game. If you're a point, you'll have no trouble at all getting in prior with the *Dungeon Master*-style game of action. In you enjoy a little more freedom, then allowing the right mouse button hands everything over to mouse control. Unleash left and right, you can spin around on the spot, and the left button makes you no forward. This system leads to more control and lets you get on with the business of running randomly around the city without all the fuss of manually moving the mouse to the right lion.

A1200, HERE WE COME

Although there are no firm plans laid there is a distinct possibility of an A1200 version in the near future. Making full use of the machine's speed, along with its 256 KiB video's colour capability, the new version will do far more like the PC title, with beautiful backgrounds and ceilings, shadows and full day/night cycles. We will have better breath and looking mouse fingers.

U.S. Gold £25.99

An excellent adventure game. A must buy.

GRAPHICS	90%
SOUND	86%
LASTABILITY	90%
PLAYABILITY	88%

OVERALL 88%



WEEN

They do come up with some funny old games, those French cousins of ours. Take *Ween* for example. It's another of those strange graphic adventures, where a nothing seems to follow any particular pattern, and you never quite know if they've forgotten to include half of the instruction manual, or if they meant to leave you completely in the dark.

Ween's plot is the usual kind of thing, knobbled up on the Adventure Game Plot Construction Kit. You know, silly names, tales of mystical lands and unfulfilled prophecies. It boils down to a straight quest for, wait for it, three grains of sand! I can tell that's got you all excited, but snigger down, the best is yet to come. It's played with a rather scrappy looking point'n click interface, which would

have been okay a few years ago, but comes nowhere near the standards of the Lucasfilm and Dolphin adventures. Unlike those classics: *Ween* fails to convince you that you're in another world! Instead it just feels more like an interactive slideshow.

Puzzle-wise, it's completely illogical. Rather than being hard but fair, the solutions to the problems are just plain stupid. Once you realise that logic was a word missing from the designers' vocabulary, you end up just pushing, pulling and using everything you can lay your hands on in the hope that you'll hit the right combination of irrelevant moves. You do get a bit of help from Kevin the fruitbat, but have to give him pieces of fruit, which are hard to come by. If you're bored of logical adventure games where everything makes sense, *Ween* is the one for you. **Tony Holgan.**

Coktel Vision £25.99

52%



CYTRON

Take the old classic *Paradroid*. Throw in the raw touches of *Gauntlet*. Shrink the graphics a bit. Remove a fair chunk of playability. Give it a snazzy intro. Now what do you have? - *Cytron* from Psygnosis, another title that proves that fancy presentation doesn't make for a great game.

On loading, you are given a quick piece of Psygnosis graphical brilliance, as a ray traced robot - a mini tank - rolls along a corridor, spots a couple of flying patrol drones and blasts them out of the sky. It looks like this could be something special. Then you load the game itself, and realise that once again your hopes are to be dashed. *Cytron* casts you as a solo combat droid, out to save the lives of hundreds of scientists trapped in a research laboratory where the other robots have gone slightly mad and are attacking everything in sight. Yes, it's exactly the same as *Mindscapes*' *D Generation*, only not as polished.

Cytron is a well designed little fellow. Not only can he stand tall as an all-round battle machine, he can also split into two more specialised characters. *Cyri* and *Ron* are called into action on levels where multiple actions need to be performed in sequence - such as switches switched and doors opened, so the two can be sent their separate ways to co-ordinate actions and save the humans.

It all scrolls around quickly, responds instantly and generally is quite playable. The real problem is that it isn't very inspiring. The small graphics have little or no character to them, and after 10 minutes of tedious blasting I was beginning to get very bored with it. Indeed. A simple idea, but one that has been done so many times that it just isn't worth playing. **Tony Dillon.**

Psygnosis £25.99

52%



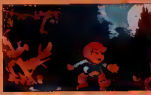
NICKY BOOM

Fancy playing a game that will overhaul you with its humour and animation? Apparently that's what *Nicky Boom*, from French cousins Microdis, will do for you. Playing *Nicky*, the character from the title, you have to try and rescue your grandfather from the clutches of an evil witch who has kidnapped him and turned all the peaceful forest creatures into carnivorous freaks after you blood.

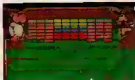
You can see from the screenshots that it's a platform game. It's also a very basic platform game, and one that seems extremely dated when placed alongside titles like *Zaxxon* and *RoboCop*. All the standard inclusions are there - such as smart bombs and hidden rooms, but that's it. Microdis don't seem to have added anything in order to make the game stand out - so it doesn't. It's quite fun to play for a while, and the controls are light enough to make it enjoyable at times, but there is so much better around. **Tony Dillon.**

Microdis £25.99

65%



BUNNY BRICKS



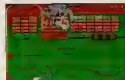
indestructible bricks and bonus tokens. Some of the screens have a slight puzzle element too, which usually involves hitting switches in a certain order to gain access to other parts of the screen.

Bunny Bricks is a bit better looking than most *Breakout* games, thanks to plenty of colourful cartoon backdrops. Unfortunately, however laid out the controls, must have been on the same trip as the blake who dreamed up the storyline. They're fun in an instructive, but you get used to them after a while. There's nothing much to shout about on the sound front, but it's all made that bit more satisfying with a good sampled 'crack' as you hit the ball.

However, addictive and humorous as it is, disposable fun like this really belongs in the budget price bracket. **Tony Holgan.**

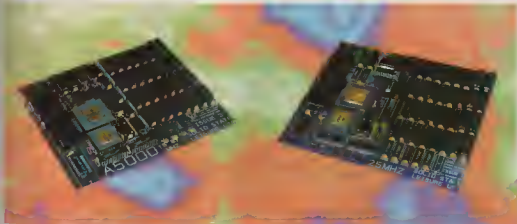
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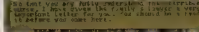


GUAMIGA
SCREENSTAR

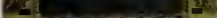
WAXWORKS



Your uncle is on hand to offer pearls of wisdom. It pays to consult him every time you enter a new locale.



So that you are fully understood, the marriage
course, I have given the family a lawyer a very
important letter for you. You should be a read
it before you come here.



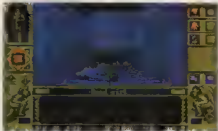
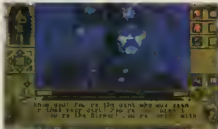
The control system, as is common nowadays, is entirely point'n'click. To examine an item you simply double click on it, and to pick it up you drag it onto the inventory window. The only problem with this system is that it's very easy to overlook an important item, so it's essential to click on everything in the area. While this system works well for the most part, it can be fiddly if you need to change weapons or par-



The graveyard is the most horrific of the early levels. There you face zombies who are really hard to kill, mainly because hacking their heads off has no effect.



When you take a peek at some corpses you'll be treated to a fairly gory close-up of the poor victim. But not to hang around dead bodies for too long, though, or you may be taken for the killer.



form a similes ect, in a hurry, which leads to some very untimely demises.

Cambal is very simple. When you've chosen your weapon you simply click on which bill of your for

[illegible]

Ministry this and of thing isn't over-
not 's cap of lee, so if you're afforded by
the night of no/don't being what is online
and/or being stripping the flesh from
to/being corpse, you'd be advised to
what to something that lets you drive cars
or sleep on above with a foot-moving
robot.

you want to strike at. Depending on whether you click, your character will either lunge or swipe. If you're facing a human-shaped creature, it doesn't matter too much, but when it comes to your everyday creatures from the dinkside, you have to be very selective about which tentacle you're aiming for. The status of your enemy is shown graphically by the amount of wounds on their body. What's really neat is that the corpse is added to the game map, so you can use your victims as markers to help you find your way around.

You're not without help in your quest. Your character has a number of psychic points which can be spent summoning his uncle's spirit. When it appears you're given a list of questions to ask him, all of which are relevant to that scene and your current situation. I found this lecture particularly useful, as it provides further background to your current quest as well as the odd life-saving tip.

DIGITISED GRAPHICS

The graphics are superb. Much of the time is spent looking at repetitive scenery, but when you come to a key location you're treated to

some very smart graphics. The graphics artist must have received a video camera for his birthday, as there are a few bits of digitised animation, along with static digitised images, of a variety of animals, many of them of tropical and local wildlife, along with generous amounts of blood. The music is a little clumsy at times, but there's a different piece for each level which compensates slightly. The game is a lot of fun, and it's worth picking 10 disks, which to my mind makes it one of the largest games on the Amiga. While this could lead to all sorts of disk swapping, the only drawback is that the Amiga, if it's working, it appears to have no disk and you have to insert a disk of its own. There is a certain amount of accessing when you enter a key location, the overall amount isn't much. If you've got a hard drive, most of the above problems disappear.

More than the technical excellence, what makes this game really special is the plot. I can't remember having played such an imaginative and involving game. Each one of the subplots is good enough to stand up as a game in its own right. Whether it's nineteenth-century London or wandering around a third-dynasty pyramid at Saggle, the

atmosphere is fantastic. It's really good to see a game which doesn't rely on hordes of arcs and trolls to provide RPG entertainment. This goes down as one of my top three games of the year, and one of my all-time favourite game concepts. If you can handle the horror, you can't afford to miss this.

buyers guide

release date	Out now
genre	RPG
team	HordeBros
controls	Mouse
number of disks	10
number of players	1
hard disk installable	Yes
memory	1Mb

ACCOLADE £34.99

6 One of the best RPGs I
have seen in a long time. 9

GRAPHICS	89%
SOUND	80%
LASTABILITY	92%
PLAYABILITY	90%

OVERALL 91%

CDTV GAMING

Is CD-ROM really destined to a life of running audio-visual encyclopedias? Tony Horgan takes a look at the first of two games that Psygnosis hope will change the face of CD gaming forever.

NEW ANGLES

We all know that CD-ROM holds huge potential for games. Despite having 600Mbs to play with, and the opportunity to spoof video animation and CD quality sound direct from the disc, so far we've been offered nothing more than ports from existing floppy games. Determined to make their mark on the new-born CD games market, Psygnosis have approached the job from a completely different angle, and the results are just about coming to fruition.

First off the blocks is likely to be *Microcosm*. Taking the basic theme of the two films *Fantastic Voyage* and *Inner Space*, it's an epic action adventure that's had a development team of around 32 people working on it for the last 12 months.

It's the year 2051, and one corporate buy-out after another has led to the formation of two massive companies, with the finances of the world depending on their success and failures. Both have decided that there's no room for the other. However, while one attempts to get the upper hand through honest business dealings, the other resorts to more sly tactics. They've implanted information-extracting computer chips into the brain of rival company boss Korsby, the plan being that they can now predict their competitor's future deals, and take action accordingly.

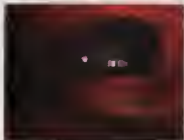
INJECTED WITH A POISON

Playing the role of an avenger of the future, you're miniaturised, injected into the boss's bloodstream, and given the task of finding and destroying the implant. In typical Psygnosis style, it will be fronted by an extravagant intro animation, which sees the camera zoom into a planet surface from outer space, down through



This 3D-bit rendering makes up part of the opening sequence. Unfortunately, pictures of this quality are going to be hard to transfer to the Amiga, even with CDTV.

MICROCOSM



Some scenes in *Microcosm* are very similar to the film *Inner Space*, especially the shots of the ship travelling in the arteries.

the cloud base, swooping into a futuristic cityscape, along the alleyways and streets, through a window into a lab containing Korsby's body. Entering one of the life-support tubes connected to the body, the player is sucked into the blood system, and takes control of the craft.

You might think that's the last of the fancy graphics, but that's where *Microcosm* is different. That same cinematic quality visuals continue right through the game itself! You put in control of a minute bio-ship, hurtling through the veins of Korsby's body. Not for the squeamish this one – the inside of the veins look horribly realistic, with strings of goo hanging down like stalactites. In fact, it's just like in those med-

ical documentaries that always come on when you're having your tea, with a surgeon poking a pointy little camera on a wire down some poor soul's various pulsating orifices.

24-BIT SLIME

It's light-sourced colour 3D all the way, but there's not a vector or polygon in sight. Instead, everything has been ray-traced on professional 24-bit systems, down-converted for Amiga/CDTV compatibility, and written onto the CD. Once in the game, the background images are loaded from the disc, and played like a series of multiple choice animations, depending on which route you take.

The real action takes place over the top of these stunning backgrounds. On your way to the brain, you'll have to fight off countless enemy ships, implanted to stop any such counter missions such as your own. Any new development is accompanied by a brief cut scene, showing for example, a full-screen close-up of your ship as it bobs and weaves through the tunnels.

There's just the stuff to kick start the CDTV and CD-ROM scene. If this doesn't set the market alight when it's released in March '93, nothing will.

BEHIND THE SCENES

We were so stunned by the quality of the art appearing here that we thought it only fair to give credit where credit's due. So, here's a rude call at the team involved:

• **Producer:** Psygnosis

• **Development Team:**

• **Artist:** Ray Thomas, Leo Cano-Woodell, Garvan Calvert, Jeff Bramble, Jim Bowers, Neal Salter, Ricky Carter-Woodell, Mike Watersworth, Chris Moore, Gary Bailey

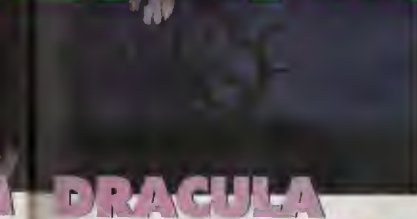
• **Programmer:** Paul Frenley, Doris Wylie, Gavin Dodd, Julia Wilson, Steve Bickford, Kenny Everett, Mike Anthony, Andrew Tean, Simon Moore, Stuart Sorenson, Damien Halliwell

• **Designer:** Tony Parker, Nick Burncombe, Nik Wink



The ship approaches one of the implants in Korsby's body. Take careful aim and blow it away before the next computerised game gets to you.

BEAST SPECIAL

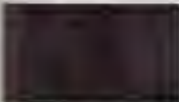


THE WOW FACTOR

Psygnosis had their way, all games would simply be marked with a 'Wow!' factor. If that was the case, they'd have had quite a few 100% reviews by now. Even going back to the days of *Arena* and *Barbarian*, and more recently the *Beast* series, they've always managed to produce that jaw-dropping initial impact that sheds light on the gosh-o-meter. Guess what? They're all at it again.

In a first for Psygnosis, they've won the rights to publish the official game of the forthcoming *Dracula* film. Stealing Anthony Hopkins among others, *Dracula* opened in the U.S. in the autumn, and picked out cinemas across the country. Psygnosis are hoping for a repeat performance when it opens here in March.

The movie follows the plot of the original novel fairly closely. Jonathan Harker is the good guy, who finds himself in dealings with the Count, who wants to kill himself a bit of property over in Old England. All seems well, as Harker accepts an invitation to lodge at the Count's castle in Transylvania. All this changes when Dracula spots a photo of Harker's girlfriend, who bears a remarkable resemblance to an old flame. Soon she becomes an obsession, and Harker begins to get the feeling that the Count has an ulterior purpose when he asks him to stay for a little bit longer. Harker has to



As an evil fog drifts into the forest all good adventurers should be tucked up safely to bed - NOT!



After the Psygnosis team had been digitised, the pictures were retouched using DPaint.

try to stop Dracula getting to England and putting his pointy fangs into his girlfriend. This is a perfect plot for a platform based beat'em up, after all haven't we all heard much more ludicrous plots used for these kind of games?

As with their other big CD little *Microcosm*, the blimey, that's good! comments, are induced by the stunning visuals. With the help of a Soft Image professional 24-bit 3D anima-



Not content having just one enormous CD-ROM project on the go with *Microcosm*, Psygnosis are beaver away on another monster. *Dracula*, no stranger to computer games, is soon to make his first appearance on CD-ROM.

tion system, the Scouse lads have produced a game that looks like nothing you've ever seen before.

Most of the game takes the form of a horizontally scrolling beat'em up, with arcade adventure elements creeping in at certain points. As far as the gameplay is concerned, it's fairly straightforward. Different levels take you through swamps, forests and castles, throwing up bats, ravens, rats, bewitched skeletons, gargoyles and Dracula himself, who has to be battled a number of times before the final conflict.

REAL 3D

What makes it different from anything else are the graphics. We've all seen parallax scrolling backgrounds, sometimes with dozens of planes as in the *Beast* games, but nothing can compare to the illusion of three-dimensional depth given by the backgrounds of *Dracula*. Usually parallax effects are created by moving sets of flat graphics at different speeds, with those in the foreground moving fastest. This can be very

The representation of Dracula's castle has closely matched the descriptions in the original novel by Bram Stoker.

Wired creatures roam the corridors after dark. Any scrollable room would follow Dracula's instructions to remain in his room. Unfortunately, hardened adventurers don't have the sense to follow simple instructions, so it's off to a bit of wandering.

effective, but it still looks like a load of old board cut outs moving across the screen.

Imagine you could dispense with all that pseudo-3D scrolling, and walk around in a fully ray traced texture mapped environment, that scrolled and panned under your control. Impossible? Don't you believe it, because that's just what you get with *Dracula*! Whether you're running through the icy wind in the spooky forest section, or hacking your way through the castle stage, you can't ignore the amazingly solid looking backgrounds as they scroll past.

What makes it even more convincing is that this isn't just an automatic slideshow animation running behind the main action - it's all under your control. Not only do you walk along in front of these wonderful 3D scenes, but you also interact with them to a degree, walking up rendered animated staircases, opening trap doors and so on. If all this wasn't impressive enough, you get even more mouth-watering animations as you move from one scene to another with dynamic panning and zoom shots taking you around from place to place.

BLUE MOVIES

Innovation number two concerns the rest of the animation. The design team wanted to get the most realistic sprites possible, to equal the standard of the backdrop. However, digitising figures directly from the film wasn't viable. Instead, Pygmalion had to turn their hands to a bit of dramatics themselves.

Dressed up in their own replica costumes, the team got on their video camera, and shot themselves running, jumping, dying, casting spells and all that kind of thing. These Oscar-worthy performances were then transferred to *Deluxe Paint* for retouching and animating, separated from the background using a variation on the 'line screen' technique, the same method that's responsible for putting Doctor Who on the Planet Tardis, and super-imposing newscasters on footage of efficient-looking office scenes.

Due for release in March 93, *Dracula* could be the the CDTV world Defender of the Crown was to the Amiga. It remains to be seen whether the gameplay can equal the graphics, but either way, it looks set to shift quite a few nails this Easter.

THE COMPETITION

So what has CD-ROM-games gone up against then? So far, almost all the games to appear on CD have been designed to make floppy competitors. This trend has been in getting bigger games, more, and better ones. CD, when put on the road of the disc with a nice soundtrack, better animations, or simply stay as packing the basic game. Some of the recent releases have started to show a little more to do. Take *Overlook Palace: Unsettling Detective*, from Team Simulations, which was a title that not only used the visual storage capacity of the CDTV well, it was also a decent game.

Although the CD-ROM support has been knocking around for a few years now, it's still quite a recent development to reality, but within some of the potential is tapped open, it could die an extremely death before it's got off the ground. After all, hardware is only as good as the software it runs. With *Overlook* and *Dracula*, Pygmalion seem to be the only ones using CD-ROM as anything other than a big floppy. So what about the rest of the, ah? Just your fingers and



These wonderful quality pictures will, hopefully, be matched by an equally haunting soundtrack. Let a pray that Pygmalion have the sense to include some spot effects like the yellow scar of toothy on the stairs.



The sun sets on another day, it's only at night that our hero's, Jonathan Harker, worries really begin. The plan for this scene is to track the hero as he moves across the screen. The shadows will be continually rendered, live so that they move with the setting sun and with the camera panning.



The horse's movements were taken from a real one using a video camera. Each frame was then digitised, and then the whole sequence was strung together using *Deluxe Paint*'s animation features.

leawing

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Microdeal products are available from your local computer shop or direct from Microdeal. **Already own a Microdeal Sampler and want to upgrade? Phone 0226 68020 for details.**

small tips

Artful advice, bright bonuses, canny cheats,...the CU ABC of game-playing guile is here - the small tips that are a big help!

ADDAMS FAMILY

If you're in an edgy kooky spooky mood then these level codes for the creepy platformer will send a shiver down your spine.

Level 2 91R1B
Level 3: R1R1G
Level 4: B9K4
Level 5: V919B
Level 6: VGR12
Level 7: BKKKX
Level 8: BLJ12



BART SIMPSON AND THE SPACE MUTANTS

To skip a level, type "SHEEP IN A GROUP WEARING HATS" during play. It's also worth trying "EAT MY SHORTS" and "COWABUNGA" whilst on the finish screen.

HEIMDALL

Here's a handy hint for heroes who never say die. If you character has just been killed and you want to restore your weapons, magic, and crew members, but forget to save the game beforehand, all is not lost! Go to the 'Save Game' option at the beginning of the game (where the attribute options are). When the instruction to insert your saved game disk appears, click on 'NO' and you will return to the items screen with everything you had before you were killed.

JAGUAR XJ220

Core's excellent car racing game can prove quite a challenge. To do a two minute lap in just 30 seconds, go to the mode part of the music section and hit the left arrow key on the scan

THE KILLING GAME SHOW

Come on down...the cheat is right! If you open the box, rather than like the money, you'll see that you've won a golden shot at another top tip. Don't press the Fire button while you're on the 'Good Luck' screen, press Help and a map of the forthcoming level will appear. Once again, when the Press Fire to Continue message pops up, press Help and all your lives will be restored. If, even with all this aid, you still get killed, hit the Help key once more during the replay. You will start again, from the point at which you died, with five lives.

PITFIGHTER

If you're getting impatient for the rough and tumble of the higher levels of this game, type 'LOBSTERS' during play. If you now press a numbered key you will zoom to the level with the same number. And there's more. 'C' will send you to the last championship level. 'G' will put you into the grudge match, and 'L' will enter you for the elimination match.

SHADOW WARRIORS

Having trouble shadow boxing in this exciting beat 'em up? Hold down the Control, Escape, F2, C, J, V, Help, Right Alt, Left Bracket (numeric keypad), and Enter (numeric keypad) keys while the title screen is displayed. Phew! Having used all your fingers to do that, the bottom of the screen will flash. If you now press 'Help' you will skip levels, '1' and '2' will give your character more energy, and 'Q' will make him invincible.

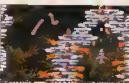
TERMINATOR 2

Now you can change levels as fast as the T-1000 changes shape in this game inspired by the all-action movie. After pausing the game, press each of the Function keys in turn. Press fire to resume play and you'll find the Escape key advances the levels. Heala la vite, baby!

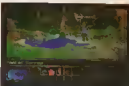


XENON 2

To skip levels in the classic shoot 'em up, pause the game and type 'RUSSIAN AIR'. Switch off the pause and press 'N' - it's as simple as that.



LEGEND OF KYRANDIA



As there appears to be some confusion surrounding whether or not it is possible to install Legend of Kyrandia onto a hard disk, let's set the record straight. It is possible to carry out this simple task, but the documentation included in the game packaging is not helpful.

The simple solution to this problem is to create a new 'Drawer' in your workbench window and place all your Kyrandia files inside it. Open up your hard disk window and click on the Empty drawer icon. Pull down the Workbench window from the top of the screen and select the Duplicate icon. You will now have created a copy of the Empty drawer. Pull down the Workbench menu again and select Rename. You may now rename the 'Copy of Empty' label to Kyrandia. Insert the first floppy disk of the game set and open up its window to display the INSTALL icon. Drag the INSTALL icon into the Kyrandia drawer. This will copy the installation file from the floppy and put it inside your Kyrandia drawer on the hard disk. Double-click on the INSTALL icon inside the Kyrandia drawer and the screen will clear and the installation will automatically begin to copy all files from the floppy disks onto the hard disk. You will be prompted as normal to insert each of the floppy disks in turn until the installation is complete. Close the Kyrandia window and open it again to display the new game icon which has appeared. Voila, it's installed.

GOBLIINS

Many thanks to Karen Coward at Gloucester who has increased the store of games dog-eared with the following through cheat collection. A special CD 'to very much' is to give to Alex Barker of Middlesbrough and Daniel Slatkoff of Dundee for the many cheats they contributed to this month's issue.

The bonus codes for Goblins are:

- 1 - No code
- 2 - VOYDVR
- 3 - IGICCAA
- 4 - ECPQPC
- 5 - FFWKFN
- 6 - HDWTFW
- 7 - DWDGFW
- 8 - JCICJHM
- 9 - IGVGGT
- 10 - LQPSJS
- 11 - HWKFKZ
- 12 - FFWLA
- 13 - DCPJMD
- 14 - EWDENH



I know it doesn't look much more, but wait until the decorations have been in.

Then Goblins will be one out the other



- 15 - TNCVTD
- 16 - TCVDRPM
- 17 - IQDNKG
- 18 - KKHNSRA
- 19 - MENSIO
- 20 - MLEURTE
- 21 - KEUDEL
- 22 - SOLEDT

To finish the final screen and complete the game.

1. Magic the rail stone
2. Catapult the rope

3. Catapult the bad wizard
4. Magic the hat.
5. Hit the turtle
6. Toss the bag
7. Drop the bag on the floor, directly below the spider.
8. Catapult the thread between the spider and Angard
9. Magic the spider
10. Wait until the three spiders have fallen into the bag
11. Toss the bag
12. Finally, see the dog decide the cooking pot. Tada, you've finished the game

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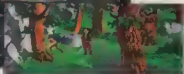
Hot on the heels of our review last month comes this super guide to the Screenstar-rated game. If Malcolm's leaving you feeling less than jolly, our step-by-step player's guide will soon wipe the smile off his face.

THE LEGEND OF KYRANDIA

You fixed the bridge, Herman!

The best bit of bridge work I've seen since I last went to the dentist. Herman's work is done and Brandon may cross to the Timbermist Woods.

A rickety bridge



"Give me the tools, and I will finish the job! With Katak's saw Herman says I'm a timberjack and I'm okay, and prepares to repair the bridge."

AT HOME

To begin with, don't let Brandon waste time with his grumpy grandad—the old man will keep his postured pose until our hero's mission is accomplished. Just pocket the note and the giant gamel on the workbench, swipe the saw from beneath it, and grab the apple from the purple pot. After chatting with the Tree Messenger, Brandon will soon be on his way by taking the tree root lift between his house and the ground.

Send Brandon to speak to the temple to meet Brynn. He can reach her by entering the screen showing the ground beneath his tree-top home, heading left (past the withered willow), left again, up (6) through the exit at the back of the screen, and then enter the temple.

Give Brynn the paper and a hidden message will appear on it. Malcolm the mad jester will be revealed as the source of Kyrandia's woes (as if you didn't know that already). Brandon must then go and fetch Brynn a lavender-coloured rose. Don't let Brandon's knapsack get overburdened—leave the note with Brynn before leaving. Brandon may wish to sacretrie clichés of useful objects in places he can return to, rather than try to carry everything. Return to the base of Brandon's house, exit screen right, pick up the sawblade. If you wish, then go right again, to the Pool of Sorrow. Gather a handdrop from the pool, then go back to the willow and cure it by dropping the leaf into the hollow on its trunk.

That sprightly sprite Merth will now pop up, wanting a game of hide and seek. Brandon should play along. Follow Merth to the right, until the Pendol appears (although you may safely ignore that), then up. Catch Merth lurking by a tree, and keep the purple marble he then offers Brandon. If you send Brandon right again, he will find himself beside a lost altar. Place the marble to the left of the two marbles already in position, and pluck a purple rose, which grows nearby.

Brandon now returns to the place where he saw the Pendol, continues down (6) through the exit at the bottom of the screen, past Herman's tree, down again, then left. Brandon will now meet Herman beside the decrepit bridge; give him the saw so he can busy himself making repairs. Brandon should leave Herman to it, and take the rose to Brynn.

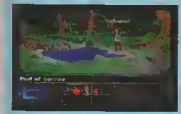
Once she has it, the rose will be magically transformed into a silver flower. Take this to the silver altar and place it on top. A jewelled amulet will now appear. Brandon should go back to Herman and find the bridge completed—do not attempt to cross if it isn't finished, it's a long way down and Brandon can't swim. If the bridge is ready, hurry across into the Timbermist Woods.

TIMBERMIST WOODS

Once in the woods, head left to Damm's house, then left again to go inside. Damm will ask for a quill, and Brandon should go in search of one. Leave Damm's house, go down to the statue, then right, where Brandon will find a tree with a songbird's nest in it. A walnut lies nearby; pick it up before returning to the statue. Go left, to the marble altar, then left again to a grove of oak trees. Take an acorn from one of the oaks, and all you need now is a pine cone. You may have to wander around the forest a bit to find one, so keep an eye out and keep track of your movements. Have a word with Nobby (down from the statue) and he may give you a hint.

When Brandon has the walnut, the acorn, and the pine cone, go back to the tree with the bird's nest in it. Go down to the wishing well, down again, then down once more to Deadwood Glade. Plant the walnut, acorn and cone in the hole and a plant will grow magically, analysing the amulet's yellow gem. Return to the songbird's tree and use the gem—it has acquired the power to heal. The songbird had been ill (poor thing). If Brandon cures it with the gem, the bird will be so grateful it will give him a quill.

Take the quill back to Damm, who will use it to write a magical scroll. Brandon should take the scroll with him when he goes looking for the four birthstones, as Damm suggests. Go back to the wishing well, then right, to the bubbling spring. The first stone he needs, the sunstone, is in the bottom part of the spring. Things now get tricky! Nine more varieties of gem lie around the Timbermist Woods, and the glades near Brandon's home. All of these must be gathered as the nature of the next two birth-



Tree of a clown. Malcolm the mad jester won't feel the laughing when he knows Brandon's been repairing the damage he's caused. A leaf caught at the Pool of Sorrow fits the hole in the rotting willow perfectly. Damsel-fingered Brynn does the bit for re-orientation by curing the tree and allowing it to spring from life as though it were, well, spring. Brandon appears courtesy of the Kyrandia Playhouse where he is currently starring as Buttrick in *Cinderella*.



Inside Darn's abode

Our hapless victim chats with Darn and his daisy dragon to check (and he's on the right track). In the end of the Fairbairns? When Breshin ruins the body with his pompous little yellow gem it will drop a present for him... don't worry, though, it'll only be a quilt.



Sombird's nest

stones is unpredictable and varies from game to game (remember the advantages of saving games prior to vital moments).

Brandon now goes back to the oak grove, then up to a tree upon which grow rubies. Brandon needs to pick one (as this is the fourth birthstone), even though he will be bitten by a poisonous snake on the first attempt. Once a ruby has been acquired, Brandon may heal himself with the amulet's yellow gem if he continues his quest without curing himself he will soon die. Go to the marble altar and place the birthstones in the golden plate. It is necessary to do this in the correct order: the sunstone first, then and end for the next two, and finally the ruby. If Brandon has guessed the correct sequence—Alakazam—the plate will become a flute.

Return Brandon to Darn (with the flute, of course) and listen to the directions to the cavernous labyrinth of Shadowrealm. Go to the Deadwood Glade, head right, then right again to stand before the fearsome serpent-headed cave entrance. As Brandon approaches, Mad Mac will appear for the first time, intent on some slapstick. The jester will hurt a dagger at Brandon, but will miss him. Brandon must then throw back the blade, sending Macaulay scuttling into the cave, sending the entrance behind him with ice. Play the flute, the sound of which will smash the ice. Leaving the flute behind, Brandon may now enter the cave and, through this, Shadowrealm.

SHADOWREALM

Dangerous shadow warms lurk in the dark of these caverns and will kill Brandon if he enters any part until by the firebermes which grow of various places in the vicinity. Don't forget that each berry will glow for only three caves! Pass by the mineral pool, going up to grab some firebermes. Return to the pool, then go right, harvest some more firebermes, and go right again to an iron gate. Head right again, into the depths of Shadowrealm, and the gate will shut behind Brandon. If Brandon finds himself with a surplus of berries, bear in mind that these can be used

as handy route markers—if firebermes are dropped they continue to glow.

The best route to follow, which includes plenty of fireberry bushes, is this: right, up, right, down, down, right, then up. The first of five rubies which may be used to counterbalance, and thereby raise, the iron gate will be found here. Brandon will need to get back to the woods soon, so have him either pick them up as he goes or remember to pick them up on the way out—firebermes are more important at this stage, however. Brandon should continue up, right, right, up, and then right again, to reach the Pantheon of Moonlight. The problem the pantheon poses must be solved for Brandon to complete his quest, but don't try to do anything with it yet. Go right, down, down, left, down, down, down, and right to the Cavern of Twilight. There is a coin in this cave, which Brandon should pocket before continuing. Head right, right, up, left, up, up, right, right, down, right, and up to the Emerald cave where Brandon should grab an emerald before proceeding. Go up, right, right, and up again to grab the final rock before returning all the way to the iron gate.

Using the rocks, open the gate, and send Brandon back to the waiting well in the woods. Throw in the coin and pick up the moonstone which will then appear. Re-enter Shadowrealm and put the

"Oh, the Deadwood stage is really overdone! plant an ocean, a volcano, and a piece of ice in the hole and a whole lot of shaking will be going on as a blinking plant burns forth."



How, did I do this?

moonstone in the base of the Pantheon's pillar. The amulet's purple gem will now be switched on by bright will-o-wisps, granting Brandon the ability to float with his own illumination, and no further need for firebermes. From the Pantheon, float to the Cavern of Twilight again, then go right, right, right, up, right, down, and right once more to reach the banks of a volcanic river. Use Darn's magic scroll to freeze the river, then float across (up) in the next screen will be found a fireberry bush and, more importantly, a key to Castle Kyndia. Keep the key and float back to the first fireberry bush you encountered after coming through the iron gate. Go up, then up again, and Brandon will have reached the Chasm of Everfall. Our hero may now fly across (Up again) to Fairiewood.

FAIRIEWOOD

Feel free to let Brandon roam at will once he reaches Fairiewood—it doesn't matter where he goes, he'll soon get beamed by a falling branch. When he regains consciousness, Brandon will find himself in the laboratory of Zanthia the alchemist. She will ask Brandon to fetch water from the magic fountain. Send him there, with several flasks from the lab, by exiting the left of the next three screens. Be careful when leaving Zanthia's, however, as a giant moustache frog will be watching from the swamp. It will eat anyone who gets too close. Malcolm will turn up at the fountain, and vandellise it by taking one of the crystal globes that orbits it.

To restore the fountain to its former glory, Brandon should begin by walking left, left, down, down, left, up, and up again to the Flaming Tree. The crystal orb is amongst the flames, but Brandon may get past these free from harm by using the magic of Darn's scroll upon them. After Brandon has taken the orb back to the fountain, and has mended it, he will be able to fill his flasks with water. Have Brandon take a drink of this water, and the blue gem on the amulet will be empowered, and enable Brandon to eliminate minor magic spells.

When Zanthia has been given the water, she will drop some hints about the various effects of her potions. Brandon's new mission is to find blueberries to pop in a potion. Return to the screen before the Flaming Tree, then send Brandon left, left, left, and then up to a sparkling waterfall. Pick the blueberries which grow nearby, then return to the lab to find Zanthia gone. A trapdoor beneath the mat forms the entrance to a passage leading away from the house. Go through the trapdoor, then head right, right, right, up, up, and up once more to a tropical lagoon beside which red orchids grow. Brandon should not attempt to float to the other side using his will-o-wisp power as a fish will leap from the deep and swallow him.

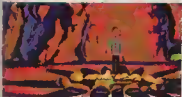
NEXT MONTH

That should give you enough to go on for the moment. For those of you still having trouble with the later levels, the player's guide will be back next issue with the final part of the solution to the Legend of Kyrandia.



Steve Merrett returns to the Amiga scene to cast his godly eye over the many new budget games set to appear at a shop near you...

ZAK MCKRAKEN



Released slightly before *Indy*, *Zak McKracken And The Alien Mindbenders* is a top-notch spool of countless B-Movies – however, unlike *Grimin's* lurid *Plan 9*, it pulls it off perfectly. It transpires that aliens are set to overtake the world, but one Super scoop, Zak McKracken, has rumbled, and is unravelling, their plan, and – guess what? – you're Zak! Using the same point'n'click system as both *Indy* and the more recent *Monkey Island* games, but Zak looks a little primitive in comparison, it still beats the pants off more recent games. The humour is excellent with loads of little in-jokes, and the characters are introduced one by one and this adds to the atmosphere perfectly. If you're split between *Indy* and Zak, I'm afraid there is only one answer available to you – buy 'em both. I guarantee you won't regret it.

89%

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INDIANA JONES: THE ADVENTURE



EDITOR'S CHOICE OF THE MONTH

Based on the third film in the series, *Indiana Jones And The Last Crusade* is the only game that U.S. Gold has released which has done

the character justice. Following the silver screen antics of *Indy* to the word, Lucasfilm's adventure is still a major challenge, and quite simply the finest game to emerge from their stables. Cast as *Indy*, the player is set the task of retrieving the Holy Grail, and this humble task starts at a small American school before moving to Vienna and Nazi Germany. As well as the stunning puzzles, *The Last Crusade* succeeds on every other count, too. It has stunning graphics, an easy-to-use parser, and a modicum of arcade scenes to keep you on your toes. In short, this is probably the best adventure I have ever played and, whilst I honestly can't profess to being an expert of the genre, this has once again got me hooked. And that's after I went to the trouble of completing it first time round. A genuine classic, and an essential buy.

92%

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BATTLEHAWKS 1942

Fight times never really do anything for me, as the reward for all that mastery of a dozen assorted key presses and tap wogging, simply isn't justified by seeing a number of polygons disintegrate before you. However, I do admit to liking the basic premise of dog fighting. Cinemaware's *Wings and Maneuver*, *Battlehawks* offers stacks of such daredevil fighting. Sadly, though, whilst *Battlehawks 1942* wins a massive thumbs-up for its ease of play, it is very samey and is starting to look extremely dated. Controlling your trusty fighter plane, a number of missions await you: weaponry and flying skills, including missions to take out large targets. However, by the time you have got used to the sluggish controls, jerky screen updates, and the chunky and barely recognisable enemy sprites, all the atmosphere and playability has been shot down ages ago. Not really worth the effort, I'm afraid.

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56%

DIZZY: PRINCE OF THE YOLKFOLK

(Read with heavy irony) Oh good, Dizzy has returned in another of those flick-screen arcade/adventures. Great, this means that once again I can wander from screen to screen picking no word-looking objects and put them to use in a series of obscure puzzles. AND I can then spend hours talking to tedious characters who offer about as much interaction as a too clock. Basically, you know what to expect here, and it is just the same old stuff cobbled together with a few new puzzles and characters. Still, if Dizzy games are your bag (in my case, a colostomy bag) then you'll be less chuffed with another competent but uninspired entrant to the series. Somehow, though, these seem far more suited to the more limited Spectrum market.

CODEMASTERS OUT NOW £7.99

35%

PICTIONARY



Normally, the idea of translating a board game to a computer is fairly sound. There should be no more cheating the banker in *Monopoly*, no more losing the question cards in *Trivial Pursuit*, and card games will have the pack shuffled and ready to play. However, *Pictionary* is a different kettle of worms. The board game relies on a number of lagged players sketching whatever the game cards instruct them to. This translating these on to a computer screen relies on the game testing if a fairly decent drawing package. On that, it's a pity that *Pictionary* is saddled with a package which is about as flexible as *Steve Wonder* when an Etch-a-sketch. Because of this, the game takes twice as long to get into as it does actually drawing large quantities of lags and setting the board game up. And even at eight quid it's still a dubious purchase.

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Get Serious is back with a bang! Every month in this section, we will be exploring strange new software, seeking out intelligent peripherals and inviting you to...

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TOME Series IV

Nick Veitch looks at a great help for games' programmers stuck for a backdrop.



You know the problem. You want to create a game, probably some kind of shoot 'em up. But how exactly do you create all those backdrops, and more importantly, how do you continuously scroll them from within your game?

Well, the answer, like the answer to so many things, is tiles. Tiles are small squares of picture data, like IFF brushes, which are assembled in order to create a full image on the screen. The advantage of constructing a picture in this way is that when some parts of the screen are similar, the same tile can be used more than once. If you are very cunning about the way you arrange the tiles, the end user won't even notice that you have used the method to construct the screens.

Since the entire screen is made up of tiles, you can then define complete images just by listing the

A-Gene

Ever wondered just how many famous people you're related to? Nick Veitch may have the answer.

Every year thousands of American tourists descend upon these islands with one objective in mind. Well, yes, they do wear fond clothing, talk too much and insist on mispronouncing every place name they possibly can, but the real reason they come is to check out their roots. They all really want to know that they are related by marriage to the great (to the power of 14) grandson of a man who once got beheaded for 16 groats worth of tax evasion.

A lot of normal people are quite interested in their family history, too. A lot of families find it hard to trace their history back through upheavals like the last World War. Even if you do know who your great grandparents were, it is difficult to record all the information in a meaningful way.

That's where A-Gene comes in. It is essentially a database, but it is a database which has been specifically designed for dealing with records of peoples' lives. Entries allow complete details of birth, marriage and death including locations and dates.



The top rated magazine in the new-games products category since 1984. They will definitely be worth the money and are likely to set a benchmark for future volumes.

IV
pro-

bles that are required to make it, which takes up a lot less room. These lists are called maps.

It makes sense doing things this way. Consider a game which scrolled over 20 screens of background. Doing it the obvious way with a huge bitmap would require (20 x 320 x 480) 38400 bytes - there wouldn't be enough room left for the game on most systems. With a tiling system these screens could typically take up less than 50k!

About 90% of games use this system for background so it's about time you did too. **TOME** is a complete software extension for the AMOS programming language. It adds commands to allow the use of tiling systems both within AMOS.

It can handle tiles on a number of different resolutions (16x16, 16x32, 32x16 and 32x32) and the maps are very compact taking only one byte for each tile used. In the example above the 20 screens could be compressed to 36 kb with the highest resolution of tiles, and even less using 32x32.

The system comes as you would expect, with a tile editor and map creator. It's a system which is, naturally enough, written in AMOS. There is also a value editing system. Tiles can be very versatile, and the values allow you to set flags on any particular tile. These can be used for anything, but examples include the points for destroying that tile, whether it is solid or not, which tile it should change to if it is hit - you could get virtually anything into the eight bits allocated if you find hard enough.

TOME also has a complete set of functions dealing with collision detection. It is really a complete game system in itself.

This is the fourth version of **TOME**, which has now established itself as the extension system for AMOS programmers can afford to be without. The 60 plus commands are well worth the asking price of £29.99 (£24.99 for AMOS club members), never mind the testing programs that come with them. Contact: Shadow Software, 1 Lower Moor, Whiddon Valley, Barnet, North Devon EX32 8NW. Telephone: 0271 23544.

38%

LOGITECH PILOT MOUSE

Commodore's own mouse has never received high praise. Nick Veitch looks at a better alternative.

- There are three things in life that are inevitable: death, taxes and changing your original Commodore mouse for one that works properly.
- Nobody is quite sure why it is that the manufacturer of the world's most successful home computers is unable to produce decent quality accessories for them.
- Think back: the 1541 floppy drive for the C64 (slower than the cassette drive), the Commodore joystick (guaranteed to severely damage your hands), the Amiga external floppy drive (about the size of Wei and Pease, unabridged version) and finally we arrive at the mouse.

Commodore's rodent, although about the right size and shape for a mouse (which is quite a miracle, all things considered), nevertheless feels on several important counts. Firstly, its resolution is too low - you have to have a very large desk to be able to use it without 'padding' backwards and forwards. Secondly, they usually break fairly easily, the button particularly.

It isn't much of a surprise that a lot of third party manufacturers have stepped in to fill the gap. Logitech being no exception.

The first thing that you'll notice about this mouse is that you need to plug in two leads to get it to work: it's been designed for use on the ST, so an adaptor lead is provided. This does add an extra six inches to your length (giving about four and a bit less in total) but also means that there is

a rather large bulge in the cable where the connectors go. Couldn't they have put a switch on the mouse itself?

The resolution is much greater than the CBM mouse, meaning you can actually reach all the corners of the Workbench screen in about the area of a floppy disk. It is also very accurate for detailed work, because it locks the motor factor of the lumbering CBM beast.

The buttons have a satisfying resistance which is crisp, not spongy like on some models, and although it has not been destructively tested (honest Mr. Logitech, it still works) the mechanism is of a more reliable type.

The only disadvantage, for me anyway, was the shape of the mouse. It is curved well, it's a nice size, but it has sharp corners at the rear which, if not actually painful, certainly only have a passing acquaintance with comfortable. It may look very sexy and Porsche Turbo-like, but that doesn't mean much if it's uncomfortable to use.

The mouse ball seems to be of the right type, in that it passed all the stolidity/luxury tests (voisined desk, plain paper, back of magazine), it even seemed to work on a CU mouse mat (some still available - order now to avoid disappointment).



Contact: Logi UK Ltd., Unit 8, Kingfisher Court, Slough, Berkshire SL2 1JF. Price: £28.20.

81%

UPDATE A PERSONS RECORD

Further Information For: **GOOLF H. BLINDBSBY-NITLES**

Personal Record

ASSUMET NILDA MOSSOLINI

IMMIGRATION REBILIT-

Click on Box for type initial2 to select a function:-

EDIT SAVE RETURN DUMP LSS

PERSONAL INFORMATION FOR: **GOOLF H. BLINDBSBY-NITLES**

Person:

1 BLINDBSBY-NITLES

GOOLF HMMH BLINDBSBY-NITLES

Person's Father: 3

Person's Mother: 0

Person's Vital Statistics:

18.05.1959

BIRTH

01.01.1924

GOOLF H

01.01.1924

BIRTH

Click on Box for type initial2 to select a function:-

EDIT SAVE NAME NEXT PREV PRINT DUMP GOTO EXIT

All the records can be inter-related to show who is the daughter of whom, which can be quite useful if your ancestors did a lot of in-breeding (well, Dan said it was useful anyway). Multiple marriages are catered for and various methods can be used for viewing the wedding and bereavement that have gone on.

The software itself does seem a bit primitive. It has been written in GFA BASIC - not that I have anything against that particular BASIC, or in fact with any BASIC whatsoever, but the package requestors and overall feel of the software is that it is a bit ropey (and did in fact quit once or twice whilst under test).

Text input is a bit slow and laborious and you can't call records by simply clicking on the relevant field and changing the text; you have to go through all the fields in the record.

There is printer support for printing out all the details in fact most of the information that is displayed on screen can alternatively be sent to the printer via the preferences printer driver. The printouts are text only so you can use the program with any printer.

Pictures can be attached to records though, with a Werten built in. This is a nice feature, but more use of graphics could have been made throughout the software. Still, it is inexpensive and does the job well if rather slowly when large numbers of records are involved.

Contact: Amigensoft United, 12 Hinkler Road, Thornhill, Southampton. No telephone available.

69%

I took two separate 256 colour images from a rendering I did in VisuPro on the PC, imported them into DPaint AGA and matched their position by re-mapping. The magic happened when I cut out the scene, flipped it vertically, then selected it down with a transparency of 75 to create the lake-side reflection. Using the smart luma-0 I created a ripple effect on the water, and added a little light shrubbery around the edges. Photorealistic or what?



Age old friend, King Vis from the very early days of DPaint, here I've loaded him in standard mode, which was the self-rendering coloured spheres and neon effects, and still have charge out of 256 colours.



The NASA image arrived as an artwork picture. By loading it into DPaint AGA, then switching modes to standard 256 colour, very little is lost in the translation. The text is ghosted by using transparency again, this time set at 40.

GROWN UP

If you hadn't noticed, Commodore's little girls have grown up. Alice and Lisa, cute names for some heavy duty Amiga graphics chips are full grown now... and more seductive than ever.

The AGA custom chipset, with more colours and modes on offer than ever before, breathes much-needed new life into the range and looks set to re-affirm the Amiga as the top home graphics computer. And with all this pixel power pulsating in A1200s and 4000s (and who knows what other models), who ya gonna call?

Electronic Arts, that's who. If anyone can make the Amiga all up and dance, EA can, they've proved it often enough, and they're ready to cut your loss yet again with a new AGA version of DeluxePaint IV.

AGA - Advanced Graphic Architecture. What does it mean to you? To pull it bluntly, if you don't have it, your machine and you are going to be a bit sick. If you do have the chipset fitted, it means you can forget the 32 colour limit for regular graphics, you can forget 4096 colour HAM (thank God), and wallow in the luxurious comfort of 256 colours for standard work. In liche-speak, the AGA chipset gives you eight bits per pixel RGB, 8 bit HAM and 256 colour modes. In

Deluxe Paint IV AGA

TOP RATED

The future just got brighter for Amigaowners - 16 million colours brighter, thanks to Electronic Arts, whose upgrade to DeluxePaint takes full advantage of Commodore's new chipset. Ageing Amiga artist Peter Lee finds it IS possible to teach an old dog new tricks... and we do mean the software!

a nutshell, this offers access to over 16 million colours in resolutions from 320 x 200 to 1280 x 400.

If all this sounds like trashing the old Amiga standard, it isn't meant to be. My finest artistic hours have been spent in 32 colour low resolution mode. But older Amigas are certainly made to look like poor relations alongside their new counterparts. And if anyone can tell Amigas for Commodore, then EA can - and will, with the new version of DPaint IV. Heie's why.

OFF THE MARK

To actually use DPaint IV AGA you'll need 2Mbs of memory, AmigaDOS 2.04 or greater, and two floppy drives or a hard drive and a floppy. The software supports the AGA chipset (the ECS chipset is still supported). AmigaDOS screen modes featured in versions 2.04, 2.1 and 3; and support is in built for the DrawingPad and DrawingBoard II pressure sensitive tablets if you have them.

The displays available depend on several factors: the chipset in your Amiga, the operating system and Workbench monitor setting. Making changes to any of these affects you. DPaint display options, but AGA chipset users running Amiga DOS 3, with a multi scan monitor and maximum overscan selected will get the best options. It is possible to change the scaled mode once the program is running, but it may take 11ms for DPaint to switch palettes (See our modes panel for available resolutions on a bare,

but adequate A1200). DPaint automatically reads your monitor choice from the Devs/Monitors drawer.

Interestingly, this updated version lets you load in 24-bit IFF files (the photo-realistic ones created with top-range software on high spec display cards) but sadly this isn't a 24 bit package, so it converts them into a mode it can display. You will obviously lose some information, but with the screen modes available, this is something most 24 bit graphic users should be able to live with for the creative power the program offers.



DPaint AGA is no different in operation than its predecessors - with the big exception that by having more colours in the palette, it can do justice to wide ranges of tones and hues. In this case a black and white image I digitised was colourised using the Process/Value tint option.



The scrolling lines were made by cutting a 2x2 tile, then tiling the screen with the brush (found back) into the screen. The tiling is achieved as a product of using transparency, the show list with a greater range of colours, the effects can be more realistic. Highlights were smoothed - more colour in a range lead to better effects, as were the shadows, which were created with transparency, why this time the value was much lower than for the spheres.



A simple idea which was to blow away a regular Amiga; the green backdrop, tools made and handle, not to involve the user effort on the working, each use a range of 16 colours.



How colours select when you have lots of them... thing the default palette, and transparency set at 0, the colours from the different light (and interestingly, it's somewhat artificial)



is all that for me! You bet - the default palette of 256 colours in Paint AG's standard mode. How much is an A1200 again?

A LA MODE

HAM (Hold and Modify), the ugly beast in the closet for Amiga artists forced to use it, has been upgraded too, and now offers resolutions from 320 x 200 to 1280 x 400, whereas before you were stuck with 320 x 200 or 320 x 400 modes. DPaint AGA defaults to HAM 8, which offers 84 base colours, but you can revert to HAM 6 with a palette of 16 base colours at start-up. Who would want to, though, with HAM 8 featuring 8-bit planes and giving you over 252 000 on screen colours? The increase in colour registers cuts down a lot on the fringing nightmare associated with the accepted HAM mode, and although it's not 24-bit it gives a display unparalleled so far on a production-line Amiga. The speed trade-off is somewhat disappointing though, even given the 1200's 14.1MHz 68020 processor. It is clearly a lot faster than my normal A2000 in working out hills and transparency, but there are still hold ups because of the higher processing power needed to work with much more data. It is a price I can live with, though.



The original Billa will. Getting the colours right is the trick; make sure enough colours are included in your ranges to give smooth results. For instance, if you only had two browns, the woman's hair would look like a solid brown or the original was substituted by either one brown or the other.

HANDS ON

Anyone familiar with Deluxe Paint III or IV will feel right at home with the enhanced version. It's the same - but better. True, this is a feature as much of the new chipset as the program, but without DPaint, the AGA chipset would just be sucking electricity instead of heralding in a new age of graphics on what began life as the only home station worth considering. Nowadays artists have to weigh the Amiga against PCs which have been using 256 colours in DeluxePaint PC for ages. Having used the PC version, and its sister program, Animator, I put my weight behind the Amiga. Using DPaint IV AGA on an A1200 has been a revelation - anyone who thought DPaint IV was the business on a standard machine will flip over the new pairing. WOW! is the first word which springs to mind.



This UAM screen shows a total look at the old plague, bringing the Japanese place was cut out of the main image (taken from the Guinness collection of great artwork), another the overall. The last is semi-transparent thing transparency set low.

MODERN MODES

Here is the low down on all these mouth-watering graphics modes the AGA version of DPaint IV supports, using our test set-up on an A1200 with a 68020 CPU, 2MBs of RAM, Workbench 3 and a 1081 monitor.

Display mode	Resolution	Colours	Max size
AA Half-bit	640 x 256	64	728 x 283
AA Half-bit	1280 x 256	64	1472 x 283
AA Half-bit	640 x 512	64	728 x 566
AA Half-bit	1280 x 512	64	1472 x 566
AA HAM	640 x 256	262144	728 x 283
AA HAM	1280 x 256	262144	1472 x 283
AA HAM	640 x 512	262144	728 x 566
AA HAM	1280 x 512	262144	1472 x 566
ECS	1280 x 256	256	1472 x 283
ECS	1280 x 512	256	1472 x 566
Half-bit	320 x 256	64	368 x 283
Half-bit	320 x 512	64	368 x 566
HAM	320 x 256	262144	86 x 283
HAM	320 x 512	262144	368 x 566
Laced	320 x 512	256	368 x 566
Laced	640 x 512	256	728 x 566
Standard	320 x 256	256	368 x 283
Standard	640 x 256	256	728 x 283

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For one thing, not having to worry where your next colour is coming from lifts a great weight from an artist's mind. Before, with only 32 colours to choose from, planning the palette was a major exercise, and one which was almost always doomed to failure as your ideas developed, but the palette remained fixed. Painting with 256 colours means the range potential of colours can be vast, with the offset that when you come to subtleties such as transparency (translucency) the effects are so much more realistic as the computer uses a larger number of colours.

I found the standard 2MB of RAM in the A1200 adequate for most things, but would certainly have to upgrade to get the most out of animations. A hard drive would also seem vital.

The program supports the Amiga's scalable fonts, but I found this wasn't good enough for professional work, so I invariably loaded in third-party type styles for cleaner, neater rendering. Colour tones are supported too, and I would have liked an option to try to temp the font's colours before loading, instead of either switching the entire image to the font's palette, or having them load in without their true colours. There is a quick way around this, but why have to bother? Which brings me to the twist in the tail...

GRUMBLES

There had to be some nags – a Workshiraman never likes anything 100 per cent. Take Ranges. Loved them in III, loathed them in IV. And now

this AGA version has made the selection of colour ranges even more annoying. Because now, the on-screen display of a selected range has been removed, leaving only the range in the requester as a quick guide. This would seem like a step backwards, the requester range is a sucker-punch which always shows the best possible range of colours, regardless of whether they're in your palette or not. In the real world (yours drawing), things look very different. Having to call up the fill requester to see what a range REALLY looks like is pretty dumb.

Undo. Even tried to undo something you've done in magnification after switching back to normal view? Seems like the computer has developed amnesia because it plans targets if you can undo while magnified – but sometimes you want to look at the big picture before deciding if a small alteration has worked or not – and you can't go back a step.

Another of my pet hates which hasn't been addressed is the way the on-screen toolboxes prevent fills and shapes from being drawn 'under' them. If I fill a screen with a brush shape or solid colour, I want it to go right to the edges of the screen, not stop where the toolbox or menu bar is. Why should I have to remove them to do it?

CONCLUSION

If you need a reason to upgrade your old Amiga, then DPaint IV AGA is it. It'll probably sell more of the new Amigas than Commodore's ad campaign.



By cutting off the text size brush, and using that as a mask, the image was answered. I then copied as a brush a rectangular portion of the text, where I later needed drawing the magnifying glass. Moving to the square screen, I drew out a hollow circle to blue to the size I needed. Choosing brush from the fill option requester, and filling in the circle makes DPaint contours the brush to completely fill the area – so I took the magnification. The translucency was added from the Transparency menu option with a setting of 70, and wrote as the background colour.

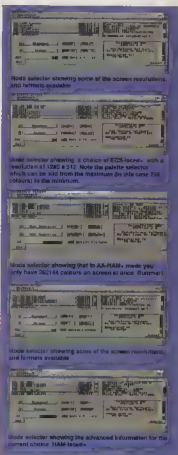


To finish off the magnification picture I added a chain to suspend the text, and created a row of branched circles as a background FX, using a range of eight colours.

MORE GOODIES

DPaint IV AGA is power-loaded to get the most out of the new breed of Amigas. Here are more goodies to offer:

- Support for 256 colour Antialiasing and antialiasing. Antialiasing and antialiasing work as normal in the new version of DPaint, except they can use up to 256 colours. The only snag which is no real problem to most users, is an aim or anti-aliasing size. You have to get your calculations in to work out the results, but the equation for those who like hard work is (screen width / 4) x (screen height / 4) how to be less than \$5,535. In any event, my advice is to do your own thing, then if there's no error message work around the problem.
- Plays nicely which can cope with the pretty messy canvas of Amiga operating systems, from 2.04, 2.1 and 3. The player, which is placed alone and which can be distributed freely, supports the full 256 colours and RAM is antialiasing and language. It's got a simple but effective interface, and allows you to scroll (if the edges of pictures larger than the screen).
- IFF parse library support, which means DPaint now uses the Amiga's very own IFF system enhancements. No built-in support for the A256 type system though.
- NAM range colour off of colour menu. Another technical feature, in do with the tricky way hAM has to use intermediate colours to get from one colour to the other – better known as the famous 'blending effect'. The result of this is that black (colour zero) has been loaded out of colour cycling in hAM mode.
- As well as taking advantage of the AGA chipset, DPaint now supports the latest Amiga screen modes like Productivity and Super. Your mouse settings in the Workbench Dev/Control menus are vital for DPaint to work on all screen modes your system can display, and if your monitor can't cope with a potential resolution, you just have to live with it. Or get a better monitor.
- Morphing can be made to work in reverse, as you can reverse an image in the spare image, or vice versa.
- The on-screen range of colours which, as the ordinary version of the program, used to display if you saved the current range from the requester has been removed. The range is now shown only in the requester itself. Instead, you need to use the true range (as opposed to the requester's interface) you have to call up the fill requester to see the colours.



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The demo writer's dream has been realised by MicroDeal, with their new VideoMaster system. John Kennedy grabs a look at the future of multimedia.

Video



This RGB image was produced by digitising red, green and blue images through an electronic colour splitter.



IT'S IMPOSSIBLE

When you see VideoMaster working, you know it's impossible. You know that you must be imagining it, because everybody knows that you simply can't have real time video and sound produced on the Amiga. As you watch the sequences of 16-colour frames appear on screen at 25 frames per second, accompanied by a digitised sound track, you know you are dreaming.

But it's true, real time video and sound have at last appeared on the Amiga. It's what everyone has been waiting for years for – why can't you get real films on computer anyway? Is a question every Amiga user has asked from an Aunt at some time or another.

The answer, of course, is that it's impossible. Or rather, it was impossible, because Microdeal, with VideoMaster, have done it. 'There must be a catch', you think, and I'm afraid that indeed there are several catches to be addressed, although none are big enough to take away from the fabulous sight of watching real moving people on your Amiga screen, and hearing them talk.

HARDWARE

First, a look at the hardware which achieves the impossible. VideoMaster is a small beige wedge-shaped box which connects to the large edge connector of any Amiga 500 or 500Plus. It has two RCA/Phone type connectors: one marked video, the other audio, and two small twiddly knobs for adjust brightness and contrast. Most video camcorders come with leads which will connect directly to these sockets, and if not an electrical supply shop will be only too happy to help you out.

Inside, it contains enough in the way of silicon chippiness to provide both a video digitiser and a sound sampler in one box, which by itself would have been a good idea. What makes VideoMaster stand out from the crowd is the way in which the software provided makes use of both video and sound.

This it does most impressively; you can grab a

section of moving video and sound from a video source such as a camcorder or tape recorder, and play them back on the Amiga's screen.

The sound and video can be digitised simultaneously, thus allowing the playback to be perfectly synchronised. When people talk their lips move in time to the sound – it looks amazing.

Video can be digitised at a rate of 2, 3, 4, 6, 8, 12, or an astonishing 25 frames per second. For special effects, you can specify a time lapse between frames.

If you prefer, you can digitise both the sound and pictures separately, and then splice them back together. You can add sound tracks created with other digitisers, or even go for the 'silent movie' approach.

Your video clips can be edited to crop out any unwanted frames, and then sequenced together to produce a finished film. It's like having access to a miniature post-production video suite.

WHAT'S THE CATCH?

That's the good news, now for the bad. The first catch is that the video images themselves are in only 16 shades of grey, and a quarter of a low resolution NTSC screen in size (that's 160 by 100 pixels). You might think this would give fairly poor results, but I have to say that the images actually appear to be extremely detailed, especially when they are moving.

It's no exaggeration to say that at speeds of 12 frames per second and above, you could be watching a very small black and white television screen. It's certainly better than most of the miniature LCD televisions available.

The second catch is that the sound is sampled at 16KHz, which is far from being CD quality. When the video and sound are digitised together, the sound quality is degraded slightly. When played back the effect is similar to the noise of an old Super-8 cine camera, which can actually be quite charming! When sampled separately, the sound quality is much better.

If you prefer, you can make use of any sound sampling card that you already have. Most types

will be supported, and can make a big improvement.

The third and biggest catch is that moving video and sound take up an incredible amount of RAM. Each digitised frame takes 8K, with typically another 1K for the sound. On a 1Mb Amiga, that means that about 60 frames can be stored – which at 12 frames a second is about 5 seconds of video.

Even worse, storing sequences on floppy disk can be a nightmare, as you won't be able to store much more than 70 frames per disk. It seems unreal to think meaning about memory, as it isn't the realm of Microdeal. It's a fact of life that storing moving pictures uses memory like it's going out of fashion, and until someone crams some MPEG chips in a box for us, that's the way it will stay.

PICK A CARD

The software which comes with VideoMaster is a very slick piece of work. It comes with a non-intuitive front end and which, for the first time that I can remember,

EXTRAS

Making clever use of the existing hardware, VideoMaster can act as a video-to-video and sound-to-digital. By using the colour and filters supplied, full-colour RGB images can be digitised at low and high resolutions with or without interlacing, in a very similar way to Rembo's old VIDI. However, unlike VIDI, VideoMaster can also produce sound, because it is also a sampler.

Speaking of VIDI, a separate program entitled 'Vidolier' is supplied with VideoMaster. This program is freely distributable and is intended to permit you to share your home video production with other Amiga users. It is an attempt to jazz up what would be a rather dreary video, various options are available when it comes to the format the display screen may take.

Media Images, full screen sized displays and varied combinations of both may be used to make the video more interesting. Any VIDI player may also be used to act as a background for the simulations, an effect which Microdeal – rather grandly I thought – have called 'picture-in-picture'.

Master



The playback screen can mean up a film by adding full-screen as well as various other types of effects.



The Sequence Card gives you video sequences to be converted into a video equivalent. I MED

The video card can be used with many tools for processing the sound. You can also use it to flip the sound's to parallel.



The people who made it possible. Thanks guys



The video editing card allows you to edit video frames to be added, deleted and re-ordered.

but, is actually easy to use. Instead of menus, you navigate through the system by selecting different 'cards' - there is a card each for video, audio, sequencing and system configuration. Once the card is to the front, various gadgets are available to provide the editing and file options.

The left of the screen is a video monitor, which can be used to watch your film, or keep an eye on the current video source. Similarly, the lower part of the screen contains the sound monitoring window. Users of Microdeal's samplers will feel at home with the dual-marker system.

With a suitable video source connected, one click on the 'Record Film' gadget will start piping that video and audio data directly into memory.

This process will continue until either you press the stop button, or you run out of memory - no prizes for guessing which happens most often.

If you wish, you can use the video and audio cards to digitise data separately - so, for example, if you wanted to add a musical soundtrack to a four frames a second video sequence, you would grab the pictures first and then connect the sound source and select sample from the audio card. By cutting and pasting frames from the video edit screen, or adding the sound data to them sync everything together and save out your final film.

Videomaster allows these films to be sequenced, that is given an order in which to perform. The sequence is rather like a single-track video version of MED, and can control the speed of the individual clips as they are played back. Some very impressive 'scratch video' effects can be created, and given enough memory it would certainly be possible to make quite a complicated music video.

WHERE THEY WENT WRONG

Microdeal have summed the worst possible offences in my eyes in the Videomaster hardware does not provide a through port for any other peripherals which may be required, such as hard drives. With a package that can easily generate data of several megabytes in only a few seconds, a hard

drive is almost an essential requirement. It is no doubt the manual saying you should try and find a third party adapter somewhere. Microdeal should either have designed one into the system or made an adapter easily available.

Another point which should have been caught - the software is supplied on disks which don't work when booted with Workbench 2 machines. Hopefully this bug will be fixed.

The hardware has very little to fault it OK, so the sampling quality isn't quite as good as a dedicated sampler, but it's not far off. I would like to know why some external sampling cartridges cause the video to jitter slightly. Also, some noise can occasionally creep into the video digitising process, giving unfortunate subjects a sprinkling of green zits, but this may have been a fault of my particular set-up.

If Microdeal are still speaking to me, I'd like to suggest that they enhance the playback program to include ARFX support. If ARFX was added and also combined with the method of choosing the Amiga screen upon which the animation was displayed, some serious multimedia applications would be possible. At the moment, although flexible, the Vidplay program isn't as good as it could be. I'd also like to see some method of producing standard ANIM files from Videomaster's film and video clip file standards. I don't want to leave you with a bad impression of Videomaster, for it certainly achieves what it sets out to do. It has definitely been the most fun add-on I have yet seen for the Amiga.

CONCLUSION

For the would-be multimedia programmer who wants a quick way of producing an animation to rival CGX, Videomaster is close - but not quite. Since there is no pre-processed disk cache, the entire animation must be in memory at once, quite a handicap. However, if the software were to be improved, and a version of the hardware came out on a Zorro card, Videomaster would suddenly appeal to even professional multimedia users.

For the home experimenter Videomaster will be great fun. The chance to play with 25 frames per second animation, as well as a full colour images and sampled sound cannot be overlooked. In this case, the whole is much greater than the sum of the parts.

The main market for Videomaster must be the demo writing fraternity, for there is no doubt that demo coders are going to flip their lids when they see Videomaster. Almost immediately you can expect to see PO disks appearing with soundtracked animations lifted directly from video. If this is you thing, you'll love Videomaster and can expect to make a good dime within an hour or two of first running the program.

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If you think that a video recorder can only be used to tape last night's edition of *EastEnders*, not only are you a sad individual for watching that rubbish, you're also wrong. David J. R. Ward puts his to a better use...

Video Backup System



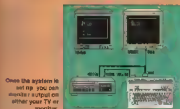
No pull-down menus: VBS is totally centred around a point-and-click interface.



Once the directory structure of the hard disk has been scanned-in, the whole tree, or just selected files, can be backed up.



Prior to each back-up a visual header is saved to the videotape for quick reference during picture search.



Once the system is set up, you can monitor a output on either your TV or monitor.



Data is saved as a barcode pattern of images.

TOO EXPENSIVE?

How many of you have back up copies of your floppy disks? Not many I fear - too expensive you see. At 50 pence per disk, a 100 disk collection would need another 100 disks, or 50 quid of back-up. And then there's the question of storage space. After all, there's only so much room under the bed.

What would you say to a system that allows you to save up to 160Mb for under a fiver! And that goes for hard disk users, too. The system I'm referring to has been available abroad for some time, but it is now here in the U.K. at an affordable price. I am referring, of course, to the Video Backup System from White Knight Technology.

Business computer users have been well catered for with 'cheap' back up mass storage options - tape streamers, optical disk drives, and so on. Well, fairly cheap. An average tape streamer for a PC costs well over £200, with the cartridges at roughly £20 for an 80Mb capacity. While most businessmen can afford the initial equipment and then the running costs, your average Amiga user is not in the same position. A similar set up for the home Amiga-user could cost twice as much.

I am fairly certain that nearly every Amiga owner has access to a video recorder. So, why waste that expensive tape machine purely on Coronation Street, when it could be put to better use. This is where the Video Backup System (VBS) comes in. For £65 you can turn your VHS, Beta, or V2000 into a tape streamer.

TALKING SHOP

Put simply, VBS outputs a scientific or violently vibrating vertical barcodes. These black and white stripes contain the binary information that the data on your disks is made up from. The images are saved to video tape complete with headers for identification and directory tree structures.

VBS consists of a plug with two leads dangling from it, another lead, a disk and the manual. Each lead is terminated in a standard phono plug that will connect to most video recorders. If your machine is equipped with only a SCART socket, or BNC sockets, then you will need appropriate adaptors. The fence lead connects the monochrome video output on the back of the Amiga, or the composite RGB on an A600, to the video in socket on the recorder. The plug is connected to the serial (RS232C) port on the Amiga, with one lead going to the 'video out' socket on the recorder, and the other going, optionally, to the composite RGB input on a monitor. Under the hood of the serial plug is a small circuit board that converts the output of the video into binary data for resampling to disk. But first you must give it something to convert.

The menu driven software allows you to back-up individual files, or entire partitions from your hard disk. Floppy users can do the same for their disks, with a multiple option so that users with more than one drive are not interrupted to pause the tape.

Once the files, or disks, have been selected you are asked to enter the start position of the tape. This is entered in the HMMSS (Hours Minutes Seconds) format. Those of you with machines that have a tape counter, or tape remaining indicator, need to make hand written notes, as VBS records the time taken for the back up and saves it to a log and report file. These can later be edited in a word processor to match your notes.

CONCLUSION

VBS is fairly reliable. But I mean that any errors are normally caused by the video end of the system. To reduce any chance of these problems occurring it is wise to use branded high grade video tape. Don't expect good results from a 'fiver for a fiver' pack bought from the local market.

Noisy mans can also be a source of problems, so try to avoid doing your back-ups whenever a hairdryer, washing machine, vacuum cleaner, or electric drill is being used. Other than that there should be no problems. The VBS software allows verification of the data on tape to that on the disk. So you can restore in confidence at a later date. At roughly one hour to save 40Mb it might be an idea to save the same data again for safety sake. It is unlikely that an error will occur in the same place in both back-ups. Bad files are ignored during a restore.

Restoration can be in its entirety or just selected files. VBS searches the video tape then restores the chosen data. Tape use works out at halfpenny (new pence) a Mb, and the initial cost compares favourably to that of a couple of games or an external floppy drive.

VBS

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How do you win? It's funny you should ask, as I was just about to explain. I'm sure you've heard people say (when talking about probability and that kind of thing) that if you had a room full of monkeys hammering away at typewriters for infinity sooner or later they would recreate the works of William Shakespeare. Well, a similar method is employed here at CU (at least with regard to the monkeys). One of them, whilst doodling on his word processor, left the arrangement of letters shown below

P R E D
A M S I
D Y O B
T E N S

What we want you to do is find, concealed within this grid, as many different words as possible, of three letters in length, or longer. We don't just want words written horizontally and vertically, mind you! We want as many words as may be spelled by connecting adjacent letters, whether that means looking up, down, or diagonally. The word MOBS, for example, may be found by linking

the letter M in the second column to the diagonally-adjacent O in the third column, then horizontally across to B in the last column, before either going down to the S in the bottom right corner, or diagonally up to the S in the third column. Is that clear? I hope so.

• Each letter displayed may be used only once per word - letters which appear on the grid twice may be used twice, but only if they are adjacent to the appropriate letters - as explained earlier.

• Only words currently in use in the English language count. Plurals are acceptable, but abbreviations, names, and hyphenated words are not. Technical jargon doesn't count either, unless it can be found in the CU dictionary.

The 25 entries with the largest number of words from the grid will each receive a Smith's discount voucher.

To compete, put your name, address and the number of words you've found, on the form below. Send it, together with a list of the words you've grabbed from the grid (printed in capitals, please), to: Great Video Giveaway, CU Amiga, Pnony Court, 30-32 Farringdon Lane, London EC1R 3AU.

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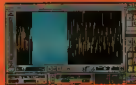
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Plus, a new cut-down SoundTracker built in to the main program. It's a pretty simplistic, but it still helps the flow of the creative juices.



Up to 31 different samples can be recorded at once. These can be used in the browser or modified using the editor.



Here's the main sample screen where all the cat and mouse operations take place.



One of the more attractive options has monitoring your incoming signal in the spectrum analyzer which gives a frequency spectrum.



And here's the effect — a combined reverb and echo. You can see the effect on both the incoming samples and incoming sounds in real time.



If you're sampling a live voice, you may need to use a few clicks from scratches in your records. These can be removed with the freshhand draw mode.

DIGITAL SOUND STUDIO

How many ways are there to rewrite the word 'sample'? Tony Horgan struggles with his synonyms and reviews the latest sampler.

SOUNDING OFF

They're breeding like rabbits! So it seems anyway. New sampler packages are popping up from all over the place, and trying to sort out the best buy is getting pretty tricky. GVP's Digital Sound Studio II (DSSII) is the latest addition to the family.

DSSII comes as a hardware and software combination. The hardware is a small cartridge (about two and half inches deep) which plugs into the parallel port at the back of the Amiga. On the back of the cartridge is a pair of stereo phone sockets. You also get a mini-jack-to-phone converter plug. Standard stuff then, so it's down to the software to decide whether DSSII sinks or swims.

Boot up the software and you'll probably want to load up some demo samples for starters. There's only one included for loading directly into the sampler section: a jazzy piano piece that isn't looped too well. Wouldn't you think the people who make the samples would be capable of including a clear, useful example? On well, better get sampling some of your own stuff pronto.

OSCILLATOR ACTION

Selecting the sample rate (which will define the reproduction quality and the size of the sample) is easy done by moving the slider at the side of the screen, or entering a value into either the rate or period boxes. Use one of the various oscilloscopes to get your input volume just right, and hit the RECORD button to start sampling. If you can't seem to get an acceptable input level, you can use the software's gain controls. These can be switched between line and microphone levels, and then finely adjusted with a couple of little sliders. If you seem to have a lot of excess background noise over your incoming sound, try using the software's low-pass filter. This is unconnected to the Amiga's hardware low-pass filter, and takes on the hiss before the sound is sampled. It's handy for bass sounds in particular, especially as the software seems to create a fair bit of noise of its own, even if you don't have anything connected to the sampler cartridge.

LENGTHY SAMPLES

So you've started sampling, and the screen has gone blank. If you've chosen a generous rate of 19856Hz, the software could go on sampling for up to a few minutes on well-expanded machines, or about 35 seconds on a 1Mb Amiga, unless you stop in and stop recording by clicking the mouse. Like AudioMaster, DSSII samples into both fast and chop memory, and as a result it can grab some enormous sounds. One advantage of this should be that you could record a large section of sound, and then save out various pieces of it for later use. One to the method it uses for selecting areas of a sample, it's almost impossible to pick out loops precisely without using the cut function to chop everything away from either side of the required section. You can copy selected areas and save those out as IFF samples, but you'll almost certainly have to load them back in for trimming later. A simple feature to let you individually extend the extremities of the selected range would have done the job.

BLEAK EFFECTS

It's a bit bleak on the effects front. You could reasonably expect a sampler of this price to include at least a phaser or flanger, especially as this would only mean altering the existing mix function slightly. All you get is a variable reverberate effect, which is far from the best I've heard on the Amiga, and a reverse function. These are applied to the sample, but you can also use the reverb and echo on live incoming sounds. Compared to the chorus, phaser, pitch-shifter, real time sound reversal and stereo panning features offered by the likes of Stereo Master, etc. DSSII looks pretty lame.

When it comes to sound quality, DSSII is adequate, but plagued by a hiss that seems to be generated by the software rather than the hardware. Using the cartridge with other software, I got cleaner results than with DSSII.

One advantage it has over a lot of its rivals is the built-in tracker. It's a cut-down edition of SoundTracker, which isn't capable of much, but is handy if you want to try out a few samples immediately.

CONCLUSION

It is easy to get carried away comparing its ivory feature to another package that performs better in that particular area, and gloss over what it does well. For example, although it can't compete with StereoMaster or Magix Master on the effects side, it scores one over them by displaying the sample as a proper wave, instead of the vertical lines which fail to highlight distorted sound levels. At a penny under £50, it's a bit more expensive than the real budget samplers, and as a result looks a little overpriced, but it's still well worth taking a look at.

DIGITAL SOUND STUDIO

...at a glance...

- 8-bit stereo sampler • Samples into Chip and Fast RAM • Built in tracker so perfect • Adaptive MIDI input • Average sound quality • Rather overpriced editing • Few effects

Address: Silica Systems, 1-4 The News, Welwyn Hatfield, Herts, SG14 4BE, Telephone 07 399 1111.

SILICA SYSTEMS £49.95

A capable sampler lacking in a few basic areas.

EASE OF USE	78%
VALUE FOR MONEY	72%
EFFECTIVENESS	70%
FLEXIBILITY	68%
INNOVATION	69%

OVERALL 73%

Oh no, more video digitisers? John Kennedy tells you why this one should get you excited.



A high resolution interlaced picture - this time in 16 colours. VLAB's advanced dithering provides excellent results.



A low resolution, 24-bit image grabbed off video tape. Although video tape is not noted for it's high quality images, VLAB can still extract some amazing pictures from it.



BIG BOYS ONLY

VLAB first made an appearance in the pages of CU back in the heady days of the July 1992 issue and then only as an add-in card for 1500, 2000 and 3000 owners.

Since then the Amiga 4000 has been launched, thus providing one more computer that VLAB will work with - but what about all the thousands of Amiga users who lack expansion slots? Is the huge market provided by those 500, 600 and 1200 owners going to miss out on what our Technical Editor described as "quite easily one of the best digitisers"?

The answer to that rhetorical question is quite obviously 'no', for those most excellent Europeans at Microsystems have brought out a version which connects to any Amiga via the parallel port.

SO WHAT?

What makes VLAB so special is the fact that it's brilliant. The pictures are brilliant, the software is brilliant and I'm sure the manual is brilliant too, if only I could read German.

I suppose I should have kept that paragraph until the end of the review to maintain some sort of mystery, but it's no good - you'll just have to hold your breath to add your own element of excitement. VLAB is very good, and there is no escaping it.

Externally VLAB looks very disappointing - it's a long slab of powder-coated beige steel with some sockets, an on-off switch and a reassuring little red light. Also, in the cardboard box is a very busily looking mains adapter with a Euro plug attached,

so it's time to dig out that old shaver adapter. The last thing in the box is a lead to connect VLAB to the Amiga - not, hopefully Amiga Centre Scotland, the main UK distributor, will see fit to include one in the future. Luckily, it gave me an excuse to make use of an old disk drive cable, which might have remained in some dark corner otherwise.

The driving software which comes with this version of VLAB has changed very little from the original Zorro-only version. It's still an intuition user's dream, with windows, menus and gadgets aplenty. To give you some idea of its user-friendliness, there are actually three ways of achieving most tasks. You can either select a pull down menu, or open and use a try window or else type in the command from a custom shell which can be opened. Amazing!

The software is so good that reference to the manual is unnecessary, which is a good thing unless you can read German. Over 140 pages packed with examples looks very good, unfortunately the English instructions provided by ACS are quite laughable, consisting of a single sheet of A4 and very little in the way of facts.

ACTION!

Any form of orthoscopic video source can be used, as long as the connecting lead ends with an RCA type plug. If your video recorder has a SCART socket, you'll need to pop in to your local Tandy dealer for a lead. Most camcorders seem to come with both SCART and RCA these days, so you probably won't need a special lead for one.

VLAB has two (unlabelled) video inputs, so just

pick one and plug in the video. If you have opened a monitor screen on VLAB's main screen you should be watching a grey scale image, updated at about one to eight frames a second depending on the size and number of colours used. When the monitor shows the image you want, just select the 'scan' option. After a second or so you can see a quick preview of the image - either in colour or black and white.

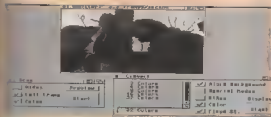
When you think you have captured the image you want, a more precise calculation can be performed to produce the final image. VLAB supports lots of image formats (see TABLE 1), and although the AGA modes are presently not yet supported, by using 24-bit files and a program such as ASDG's AdPro, you can be sure that no details will be lost. A software module which will allow ASDG fans to grab directly into AdPro's frame buffer is promised soon, and will be worth waiting for.

To preserve most detail in a digitised image, you can save the raw YUV data directly to disk. Although this file can not be directly viewed without some processing by VLAB, it's pos-

TABLE 1

Graphics Modes	Typical Size (bytes)
Mode	
Raw YUV data	368754
24 bit RGB	446152
HAM	129148
32 colour	74116
16 colours	35085
8 colours	30050
4 colours	22778
2 colours	10954

Various monochrome modes are also supported.



High resolution, interlaced picture grabbed from a live television transmission. The sort of resolution is pushing the quality of PAL to the limits.

able to batch-process the files as a later date. This is especially useful when used in conjunction with the 'Sequence' option, which will capture and store as many images as you want. If you cut down on colours a fairly respectable frame rate can be achieved.

FILTER

For optimum results, there are some extremely intelligent source definition options. The width, height and type of the video signal can be defined, as well as any noise filters you may require. As always, the best results are achieved by trying every possible combination of options, but once you have them set they can be saved to form a brand new source type. Every subsequent time you load VLAB, this new video source is available as an option. Indeed, when you leave VLAB, the current state of play of the entire system, which windows are opened, how large they are where they are positioned and so on, is saved. This means VLAB soon becomes YOUR program, set up just the way you like it. And, of course, you can switch this option off if you require! The joys of a well written program.

If you like experimenting, either with hardware or software, you'll love VLAB. The extensive AReXX support means that you can write your own programs to make extensive use of the digitising hardware — you can even switch off the main VLAB screen if it gets in your way.

The hardware options offered by the dual video inputs are also very flexible. Either input can be selected from software, so for example, you could

quite easily create a multi-camera closed-circuit system for monitoring, capturing and spooling frames to disk for later analysis. Or even create a 3D capturing system for a robot, by using the visual equivalent of stereo sound and mounting two cameras about three inches apart.

SPEED

As this version of VLAB uses the parallel port instead of an internal Zorro slot, some degradation in speed can only be expected. However, I have to say that with the SLS5000 accelerator (a 16MHz 68020) fitted to my Amiga, I had no gripes about speed at all. The longest process was the 24 bit save to disk, which took about 30 seconds for a compressed image. Previewing and creating images is a great deal quicker and never became a chore. Presumably using the extra fast parallel ports supplied with some accelerator cards would speed the process up even more. On my system VLAB was fast enough to keep an eye on the TV by opening the monitor window on the Workbench and connecting a video-recorder. Who says you need an expensive GVP card for picture-in-picture video!

CONCLUSION

If you have an Amiga, any Amiga, you should think about getting this digitiser. Not only is it tremendous fun, but anyone who dabbles with Desktop Publishing or any form of video work will soon get their money's worth from it. The fact that you can be sure it will work with your current Amiga and any better system you buy in the future makes it the essential high quality digitiser.

Top left: VLAB at work, about to grab a picture. The monitor display keeps you up to date on what the video source is doing. Top right: A typical VLAB control screen. The monitor is providing a live picture as the result against the Store area is visible to fine-tune the image to perfection.

HOW IT WORKS

VLAB works differently from most video digitisers in that it uses one of the YUV colour systems — the luminance and chrominance used by all PAL video systems.

The PAL video system explains the fact that the human eye is more sensitive to brightness than to colour detail. Therefore, it makes sense to push as much information into the brightness part of the signal as the system of the colour part. The system chosen to implement this technique is called 'YUV'. The YUV system has three channels: 'Y' (luminance), 'U' (chrominance) and 'V' (chrominance). 'Y' contains the brightness information. It is formed by partitioning a weighted sum of the Red, Green and Blue components. The remaining two parts of the signal, 'U' and 'V', contain a combination of the colour information and some of the luminance.

This method of signal encoding has two advantages. Firstly, the 'Y' component signal can be used by black and white television. Monochrome cameras can simply discard the 'U' and 'V' parts of the signal to obtain a high resolution image with no colour loss. This was especially important when colour television was first developed, as black and white cameras were still around and could not see colour. Secondly, there is no need to send each component with equal resolution. The standard (or digital) PAL video stores the 'Y' component at double the resolution of 'U' and 'V', and the remaining 'U' and 'V' components are sent at half resolution. This means that the 'Y' component is sent at double the resolution of 'U' and 'V', and the remaining 'U' and 'V' components are sent at half resolution. This means that the 'Y' component is sent at double the resolution of 'U' and 'V', and the remaining 'U' and 'V' components are sent at half resolution.

VLAB works by directly digitising the YUV signal, and then performing calculations to convert the signal into RGB. In VLAB, each of the three colour video frames of data, there is no need to send three different samples for each of the red, green and blue components.

VLAB PAR

- Works on the Amiga — 24-bit RGB images, as well as all standard Amiga modes — single frame, anything — needs WB2 and at least 500k of RAM.
- Available on Amiga coming soon.

Address: Angus Gordon Software, Marquise House, Wetherburn, Pocklington, York YO24 6AZ. Telephone: 080 907 902.

ACS £381.87

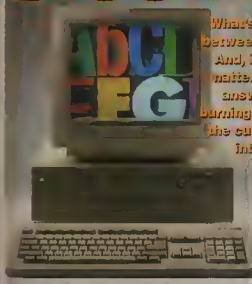
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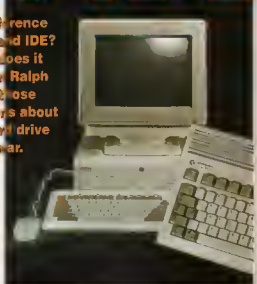
OVERALL 93%

SCSI VS IDE

What's the difference between SCSI and IDE? And, indeed, does it matter? Jolyon Ralph answers all those burning questions about the current hard drive interface war.



The A2000 drives were SCSI, as were those on the A3000. They may be a bit more expensive than IDE, but the increase in speed is worth it, especially if you are intending to run lengthy animations or sound samples which must come direct from disk.



The Amiga 4000 was disappointing in some respects. Not only did it have no DSP, but IBM chose an IDE interface for the hard drive. Some have claimed that this negates the speed-up provided by the new Motorola 68040 processor.

THE CASE FOR IDE

IDE stands for Integrated Drive Electronics. Original PC hard disks had a separate controller card with most of the clever electronics connected by two data cables to a hard disk that was neither simple in operation. This meant that setting up drives was a difficult task, resulting in much messing around with cylinders, blocks, tracks and interleave settings. This was not fun.

Western Digital, a major hard drive and computer manufacturer, decided to simplify the process by integrating the majority of the com-

plex controller card components onto the drive itself. Two varieties of IDE were formed, XT-IDE (which was based on their 8-bit XT MFM controller) and AT-IDE (based on their 16-bit AT MFM controller).

XT-IDE has all but disappeared from the PC world now, being replaced by AT-IDE and SCSI XT-IDE did make an appearance into the Amiga world with the Commodore A590, which was originally shipped with a 20Mb XT-IDE hard disk (although this was eventually replaced by a faster SCSI drive).

AT-IDE is now the standard PC hard drive interface. It only requires a handful of cheap components to add an IDE interface to a standard PC motherboard. As it is primarily a PC standard it requires a little more work to link to an Amiga, but it is still cheaper to add than SCSI to the Amiga.

The main advantage of IDE is availability and price of drives. With AT-IDE, a 40Mb drive can be bought for around £150 - £200 and there are plenty of drives to choose from. SCSI drive manufacturers have recently cut back production of

WHY DID THEY DO IT?

When the new Amiga 4000 was announced to the world nearly two months ago, the public went 'wow' at seeing the first total redesign of the Amiga chipset since 1985 and the new graphics modes it allowed. But to developers, who had waited about the new chips for over a year, the Amiga 4000 came back as a disappointment.

One of the main reasons for complaint was the lack of any improvement to the sound output. While developers were hoping for a machine with DSP (Digital Signal Processor) 16-bit better-than-CD quality sound, all we got was the same old 8-bit Paula that was in the original Amiga 1000. We shouldn't be too upset though, the 4 channel Paula can still give us mixed quality that makes most PC soundcards sound fuzzy and artificial by comparison.

However, the main gripe about the Amiga 4000 was the choice of the IDE hard disk interface instead of the SCSI interface that was present on the Amiga 3000. Why did Comms care choose the IDE interface in preference to SCSI?



An IDE drive makes more sense on a machine like the A600, but power users will be disappointed by the lack of speed and the lack of flexibility.



The IDE mechanism uses less power and is cheaper than a similar SCSI unit. They are also more widely available in small capacities (<100Mb).



There is evidence to suggest that much of the speed increase on the A4000 is negated by the slow speed of the drive.

low capacity drives, it's now almost impossible to get a SCSI drive of less than 120Mb capacity (at around £300).

Small 2.5" IDE drives are now available, mainly for the portable computer market, these use far less power than their larger counterparts, and although 2.5" SCSI drives are available there are far less of these around, and they are more expensive.

Because of the popularity of AT-IDE on PCs it is inevitable that a wide variety of devices will start to appear. Tape streamers to link to AT-IDE are now available (although these will probably not work with the Amiga 4000), and removable cartridge drives (like the Syquest 44Mb cartridge drive) are also available.

THE CASE FOR SCSI

SCSI, which stands for Small Computer Systems Interface, is an international hard disk interface. It has been around for many years, initially on expensive minicomputers and workstations, and recently on cheap computer systems such as the Apple Mac, which has SCSI as standard, and the Amiga has traditionally used SCSI in preference to other formats (even the A590, which was shipped with a slow XT-IDE drive, had a SCSI interface as well as an external SCSI port).

The most important thing about SCSI on the Amiga is speed. SCSI is fast, much faster than the equivalent IDE unit. Several applications we tested on the Amiga 4000 showed little speed

difference from running on the Amiga 3000. With the 25MHz 68040 processor we would have expected between two and five times improved performance. The slow IDE hard disk unit negated any benefits of the faster processor.

SCSI is far more expandable than IDE or any other drive interface. IDE can only handle two drives, SCSI can handle up to seven devices on a SCSI bus, and many devices can have more than one unit with different Logical Unit Numbers (for example there are CD-ROM drives that can accept six CDs, but only require one SCSI ID place on the chain).

There are a much wider variety of devices available and supported for SCSI than IDE. As well as hard drives you can buy tape streamers, 21Mb floppy disk drives, 500Mb and 126Mb Magneto-Optical rewritable drives, CD-ROM drives, CD-WORM writable CD units, scanners and even fast PostScript printers that can be linked through one common interface. Small capacity SCSI drives are now hard to come by, but this is probably not a bad thing. I have over 1Gb (Gigabyte = 1000 Megabytes) of hard disk on my Amiga 3000 and I have run out of space several times. A decent Amiga set-up should have no less than 100Mb of hard drive space to be useful.

Unlike IDE on the Amiga 4000 and other machines, SCSI allows the simple connection of external devices in external cases via the external SCSI port. This allows use of large devices (like 5.25" full height hard disks or Magneto-Optical drives) on machines where such devices would

not normally fit.

Properly designed SCSI interfaces (such as the Amiga 3000 SCSI, Microbotics Hardframe and the Amiga A2091/A590 controllers) use DMA transfer. This means that data from the drive is transferred directly to RAM without any intervention from the processor. This means the hard drive doesn't slow down the processor. Non-DMA controllers (such as the IDE controller in the Amiga 4000) do slow down the processor when disk access is carried out, as the processor has to move all the data into RAM itself. Again this cuts back the performance of the Amiga 4000.

THE VERDICT

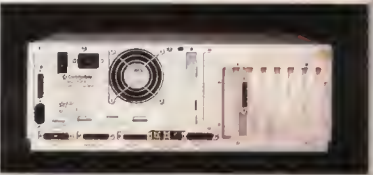
The Amiga 4000 should have come with SCSI. I can understand the reasons why CBM decided on IDE. Firstly, there was cost. The Amiga 4000 had to be cheap, and 68040 processors are expensive. Every other cost had to be cut back. I doubt the SCSI interface would have added much cost, but Commodore were concerned about availability of the 120Mb drives that they require. While several manufacturers produce 120Mb IDE drives there are few who do 120Mb SCSI drives, and only one (Maxtor) is readily available currently. Commodore could not afford to rely on one source for hard disks.

When Commodore release their SCSI II (the new SCSI standard which offers far faster transfer than SCSI I) controller for the Amiga 4000, it will take up one of the precious Zero III slots. Hopefully by then the Amiga 4000 Tower will be out, so losing one slot won't be such a problem.

CAVEAT EMPTOR

At the lower end of the scale there is not much difference in price between a SCSI drive and an IDE one, especially if you upgrade the drive afterwards. The choice is, of course, up to you. Commodore have made theirs, we all agree. Here are a few dealers who can supply you with whichever hard drive you decide on...

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Avalon Systems 091 683 6418
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Direct Computers 0782 31471
Gordon Harwood 0773 839781
Phoenix 0232 311832
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SCSI is more expandable than IDE. Up to seven devices can be added on a SCSI chain, so if you want a Tape Streamer, hard drive and CD-ROM, SCSI is the only system to use.

1

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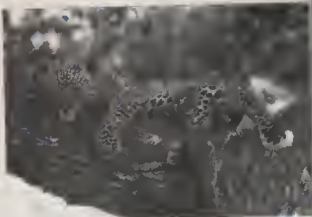
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Canon's bubble jet printers have proved to be extremely popular with Amiga owners, particularly the BJ-10 and BJ-20 models. Lately, other peripheral manufacturers have been stealing some of the show. Jeff Walker asks whether Canon's new baby will put it back in the limelight.

The BJ-200 is top graphics resolution is 360 by 350 dots per inch, higher quality than the one in Supermode 200 dpi DeskJet and LaserJet.



CANON B

THREE REASONS

There are three obvious reasons why bubble jets are liked so much: they produce sharp results, they are expensive compared to other high quality ink jet printers, and there are specific Amiga printer drivers for them.

But these low-end bubble jets are a bit slow, printing text at about 80 characters per second (cps) in high quality (HQ) mode, about 100 cps in high speed (HS) mode. Another drawback is that graphics printouts sometimes have a banded appearance — black or white horizontal lines every quarter of an inch or so, caused by every pass of the print head overlapping or underlapping the previous one slightly. The extent of the banding often depends on exactly what it is you are printing, but these are faults you can forgive, considering the low cost of the printers. But wouldn't it be nice if text printed faster and if there was no banding?

The BJ-200 is the latest in Canon's monochrome bubble jet range. Designed for desktop use, it weighs in at just over 6lb and measures a compact 13.7in wide, 7.6in deep, 6.6in high.

Stacking up at the rear of the printer is a cut sheet feeder that can take about 80 sheets. Ordinary A4 paper is fine, but the feeder is wide enough to take anything up to 9.5in wide, so envelopes can be fed through it as well. Although the BJ-200 can only print a maximum of 6in across a page, the feeder works with paper from 84 to 90gms, manually fed individual sheets can be up to 105gms.

Overhead projector transparencies can also be used, but you need to feed sheets of this through one at a time.

16-BIT POWER

The BJ-200 is the first of Canon's bubble jets to feature the new 16-bit processor and a control that actively seeks the next print position. The print head, which in part of the disposable ink cartridge (which lasts for about 1.4 million characters), has

also been redesigned. These new features have resulted in much faster text printing and greater accuracy with graphics dumps.

In HS or 'draft' mode the BJ-200 can whizz along at 248 cps, in HQ mode it can do 173 cps. In real terms these figures mean that a page of 10 cps (pica) text printed in HS will come out of the printer in about 20 seconds — or three pages a minute to put it another way. The same page in HQ mode will take about 30 seconds to print. Graphics dumps take longer — the speed these print at is largely governed by the size and complexity of the graphic, the speed of the printer driver, and the speed of the program doing the printing.

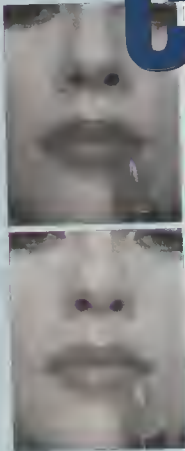
SUPER MACHINE

Something else that's new to the BJ-200 is SHQ mode — Super High Quality. This slows down the text output to 124 cps (about 40 seconds per page) and uses more ink, but the results are superb.

In HS and HQ modes graphics dumps are still slightly banded, although nowhere near as much as with earlier bubble jets. In SHQ mode, however, graphics banding is a thing of the past, even on ordinary 'bond' or photocopy paper. The results on proper ink jet paper are stunning, every bit as good as a laser printer, and in some cases arguably better.

Better results are obtained when a printing program is in control of the graphics dump, instead of Workbench Printer Preferences. I mean, which tends to produce very dark and muddy prints, especially of digitised or scanned HAM pictures. Those same HAM pictures printed by TurboPrint Professional, for example, come out superb, especially using one of the larger dither patterns.

But the best results are from Canon Print Studio, a program written specifically for getting the best from Canon's bubble jets. The blue noise (random) dithers produce almost photographic results, although there is a little banding some times due to the 'tightness' of the dither pattern no doubt. If you do get some banding, the print can be



Using the Canon Print Studio graphics printing program you are able to alter the dither pattern for the dump, plus fields with the brightness, contrast and gamma settings to get a cleaner printout.

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aborted and another dither pattern selected – Hellstone or one of the Diagonal dithers usually works best.

Canon Print Studio doesn't come with the BJ-200, but you can get a version of it free from Canon on their Amiga Canon Drivers disk. It's not the full version, but it works, although you do need Workbench 2 (or greater). If you want the full version the documentation tells you where to get it from, and as it is 'registered shareware' it only costs £15. Well worth the money.

EXCELLENT EMULATIONS

The BJ-200 has two emulations – BJ-10 and Epson LQ. In BJ-10 mode there are two typefaces available, PreRidge and Courier, in Epson mode there are eight: Roman, Sans Serif, Courier, Prestige, Script, Orator, Orator-S and Draft (this is basically the same set-up as the smaller BJ-20). BJ-10 mode, using the Canon BJ-10 driver, is better for graphics printouts, Epson mode using an Epson 24-pin driver, gives you more text flexibility.

A small control panel on the top of the printer enables you to select between HS, HQ and SHQ printing modes, as well as the normal Power, Online and LFFF switches.

Typefaces and character sets are selected via dip switches which are positioned under a small cover to the left of the control panel. On the front of the printer is a cover or flap which pulls forward to allow you access to the ink cartridge. Embossed on the inside of this cover is a guide to dip switch settings for both BJ-10 and Epson modes. Without going anywhere near the manual I was able to set the switches various ways to get various results. It isn't difficult to do.

A tray to collect the paper coming out of the printer pulls out from underneath it. When pushed in, this tray is neatly flush with the front of the printer. Likewise, the sheet feeder is only about half the height of an A4 page, and a rest can be pulled up from the feeder in order to support the full height of the paper.

The feeder also has a paper guide which slides left and right so that any width paper you put in (up to 9.5in) fits snugly.

CONCLUSION

Although the BJ-200's recommended retail price is more than £400, I'm sure you'll save it sailing for just over £300. The trick is to shop around. Keep in mind that printers are not computer-specific, so it will be well worth investing in a current PC magazine to find a greater range of dealers.

THE COMPETITION

The BJ-200 has no competition at this price in the inkjet market. The nearest rival is probably the DeskJet 500 at £499 (RRP). The big question prospective bubble jet buyers will be asking themselves is whether it is worth splashing out about another £140 for the BJ-200, or to save their money and go for the smaller, portable, BJ-20 (which can be run off a Ni-Cad battery pack). The main differences are in speech and print quality. The BJ-200 is much better at printing both text and graphics – pages of BJ-200 draft text came out at a resolution of 144 lines per inch, whereas the BJ-20 can manage only about one page per minute – and the BJ-200 also prints better on ordinary photocopier (bond) paper. The only other differences worth noting are that the BJ-200s legend and keyboard holders are slightly bigger, and that the BJ-200s cut sheet feeder can hold about 30 more sheets than the job that comes with the BJ-20.

	BJ 20	BJ-200
RRP	£299	£399
Max Print speed	110 cps	240 cps
Max line feed speed	100 mm	100 mm
Max text resolution	360 dpi	360 dpi
Max gts resolution	360 lpi	360 lpi
Build in typefaces	6	6
Auto sheet feeder	50 sheets	80 sheets
Ink cartridge life	700 000 HQ chars	700 000 HQ chars
Input interface	37k	40k
Overhead buffer	34k	40k
Noise level	45db	40dB
Emulations	PreRidge/244a Canon BJ-10 Epson LQ-510	PreRidge/244a Canon BJ-10 Epson LQ-510



The larger the picture and the higher the subject resolution, the longer a picture takes to print. But this results are always worth the wait.

With print quality as high as this picture there is no reason why the BJ-200 couldn't be used for a semi-professional newsletter. It could also be used for any small business operation where print quality is important but not vital.

CANON BJ 200

...at a glance...

- Compact design • Works with the Canon BJ10 printer driver • 8 built-in typefaces • 2.68-cps/sec • 350 dpi graphics • Lustrous quality graphics • Pictures produced in SHQ mode with Canon Print Studio/program • Long-lasting ink cartridge • 6 customer characters on 10x mode

Address: The Canon (UK) Ltd, from an 0444 256033 for more details.

CANON BJ-200 £468.83

'Compact, solidly built, fast, quiet, exceptional quality printouts.'

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INNOVATION	70%

OVERALL 93%

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- * FA Premier League and Division One permanently in memory with full information, promotions, transfers, play-off local and European Cups
- * 900 players accurately and meticulously named with real ages, aptitudes, skills, playing positions, caps and market valuations. In addition, all European players are also accurately defined
- * All 88 league referees included with time-to-life behaviour
- * Built-in infinite team editor capable of entering new players and fine-tuning up to 32 parameters. Essential for the serious user
- * Live database-type search facility plus comprehensive data link giving access to additional accurate historical information on selected players. This feature may be further enhanced by the user himself
- * More recording options, up to 36 matches always recorded in FULL for instant full-scale replay, plus another 2160 match results and league positions going back 20 years, all instantly retrievable
- * Intelligent behaviour of computer sides capable of changing tactics to respond to situation on the field or making substitutions based on fitness and fatigue
- * Three levels of commentary from highlights only to ball by ball reporting. Plus mid-week transfer and fitness news.
- * Franchises too: scorers charts, press transfer markets, club history, financial position and much more

FOOTBALL TACTICIAN is the first ever management game that includes strategy as an integral part of a successful campaign. Team selection, needless to say, remains a critical element. Each player in your 20-strong squad is now analysed in up to 20 different aspects, enabling you to select the side best suited for the match in hand.

And then in the 8th innovation of **FOOTBALL TACTICIAN**, full on-line real-time involvement during the match for the first time ever you will as a manager, be able to alter your strategy: choose a defensive or offensive system, mark certain opponents, drop back some of your players if the pressure is tight, decide exactly when substitutions should be made, play the off-side trap, go for quick counters, etc. With full on-screen commentary and minute-by-minute feedback, you're as involved in the match as any of your players! You will soon realise that this is no ordinary soccer manager. This is the REAL THING. You're in charge. You manage your side before and during the match. Nothing is left to chance. Can you use to the challenge? Try **FOOTBALL TACTICIAN** and prepare yourself for the ultimate football experience.

No known football game is more accurate! FT2 is updated weekly, transfers, bids, injuries are recorded as they happen. If your football game still lags Des Walker of Nottingham Forest or Paul Stewart at Spurs the... it isn't Football Tactician!



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0106	ARTS	E006	0106	BASEBALL	S006	0106	BASEBALL	S006
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0108	LANGUAGE	E008	0108	BASEBALL	S008	0108	BASEBALL	S008
0109	PHYSICS	E009	0109	BASEBALL	S009	0109	BASEBALL	S009
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What's small, oddly-shaped and fits in the palm of your hand? Calm down, it's only a scanner. Jeff Walker investigates.



Sometimes scans come out too dark (left), but with the help of DaataScan's Lighten feature you can bring out the detail.



The Master Page gives you a reduced approximation of the image and makes it easy to drag out the Current Area. After scanning your photograph the next job is to convert it to grey.



Any part of the image can be set or copied to the clipboard where it can be rotated, flipped or resized. The complex patterns produced by scans of photos don't reduce well.



In the greyscale editor you can lighten or darken the image, crop the part you are interested in, or have some fun with the drawing tools.



You can change the palette to create pseudo colour pictures. The Zoom levels can help with colouring in Roddy Roddy.

THE COMPETITION

The quality of the greyscales produced by DaataScan 3.01 easily equals those produced with the current versions of the two most hand scanning systems, AllScan Plus and Power Scanner. All three scanners are constantly being enhanced and upgraded, so we can be sure of better things to come.

DaataScan Pro 3.01

IT'S CHANGED

The DaataScan Professional screen has been rearranged slightly for this latest version of Panda's hand scanning system. The tool bar is now on the right of the display, and the Master Page no longer opens on startup. At the foot of the tool bar is an icon that enables you quickly to choose a scanning resolution from 100 to 400 dpi. The page size can be changed in the Settings requester - A4, A5 and A6 buttons are provided, or you can type exact measurements. The largest size allowed is 48in by 48in, which at 100 dpi requires almost 3Mb of memory.

The reason you set a page size is so that you can scan many images directly on to a single page, and subsequently save or print the whole thing. Scanning at 300 dpi, an A4 page requires about 1Mb. You may scan directly on to this page, in which case it will overwrite everything that is already there, or you can scan to the 'Current Area', which is a rectangular portion of the page you have marked by dragging out a box or by entering exact position and dimension figures into gadgets in the Master Page requester. Whatever you scan into the Current Area overwrites anything that is already on the page within the bounds of that Current Area. In this way you can create exact size pages with images in exact positions on the page.

WIDE IMAGES

The widest image you can scan is 4.13in, which is the width of the scanning head. The bigger you set the scanning area or page, and the higher the scanning resolution you choose, the more memory you need. If you don't have enough, DaataScan Professional will restrict your choice of size and resolution combination.

The big change to version 3.01 of the software is the Greyscale Editor. After converting a scan of a photograph or coloured illustration to 16 shades of grey, you are thrown directly into this new feature. As the black and white dither is converted to grey, the image in the Greyscale Editor is updated in real time. The left-hand portion of the editor contains your greyscale picture, while on the right is a tool bar that has some simple drawing tools and a colour selector.

The really fun stuff is in the Settings menu. In here is the Change Palette option, which puts up a requester that lets you change the shades of grey to any 16 colours you like. With the aid of the drawing tools and a little time and patience, it's quite easy to turn a 'boring' greyscale into a

leisurely pleasing colour picture. The drawing tools provided are Pencil (freehand), Line, Rectangle, Polygon and Ellipse - the shapes can be filled or unfilled. The Undo button in the tool bar comes in handy when you make gaffs, but it only undoes the last drawing function performed.

Ah yes, and there's a Text tool, something no other Amiga hand scanner software has. Any font in your FONTS directory can be selected and typed directly on to the image, in any colour.

You can print your images directly from the Greyscale Editor. A print size of 100% is the default, and there are buttons for 25%, 50%, 75% and 200%.

CONCLUSION

DaataScan Professional has come on in leaps and bounds since the first version and now forms the basis of a seriously professional piece of software. I hope the developers continue to develop it, with particular reference to the new AA chipset, which means that images produced with this scanner head can now (in theory) be converted and displayed in 64 shades of grey.

DAATASCAN

- Easy to learn, maximum flexibility
- Maximum page size: 48in by 48in
- 100 to 400 dpi resolution
- Provides line art and 16 greyscale scans
- Thick in grey scale editing

Address: Panda International Ltd, Enterprise House, 64a Port Ed Road, Bedford MK43 0AD, Telephone: 0294 327422.

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Excellence! 3.0

Choosing the perfect wordprocessor becomes harder as more appear. To help you choose, Jeff Walker goes head to head with the latest upgrades for two of the best.

EXCELLENCE! 3.0

Micro-Systems Software have responded to many criticisms that were levelled at version 2 of Excellence! with a complete redesign and a number of additions and enhancements. But have they done enough?

BOOT UP

The new version comes on three disks. None of these is a Workbench disk, so you are required to boot from your own copy of Workbench. No special setting up is needed, apart from installing the few supplied fonts on to your boot (Workbench) disk, achieved by double clicking an InstallFonts icon, and this is only necessary if you intend to use a PostScript printer.



Excellence! is able to generate and index and table of contents for your document

So it's boot from Workbench, in with the Excellence! disk, double click its icon, and after a short delay while the program loads, you are presented with a pleasant looking screen with an open document ready for you to type into. Initially, the program loads on an 8-colour Hi-Res screen, but this can be altered from the Preferences requester. You have the choice of 2, 4, 8 or 16 colours, a Display Configuration section lets you choose screen modes from Hires, Hi Res-interlaced, Productivity or A2024. Screen colours can be changed to suit, including the colours used for window borders and details.

Changes made in Preferences and then Saved are not recognised unless all documents are closed when you make the changes, or until you quit and restart the program. Only one set of preferences can be saved, and the settings in this file are used on start-up.

FACING THE FACTS

For its screen display Excellence! uses standard Amiga bitmap fonts. Workbench 2 and 3 users are able to select any font in any size, because those versions of the Amiga operating system are able to resolve fonts 'on the fly', but Workbench 1.3 users are restricted to only those sizes actually on disk in the FONTS directory.

The Compugraphic typefaces supplied with

WORDSWORTH 2



At the more expensive end of the scale the long awaited

Wordworth update from Digita has arrived.

FIRST VERSION

The first version of Wordworth received mixed reviews. While it had many advanced features and produced good output, some features, especially the printing facilities, were confusing and difficult to learn. Digita has addressed these problems and more, in the version 2 release.

The original Wordworth supported Amiga bitmapped fonts and many typefaces that were resident inside particular printers; version 2 still supports these, plus ColorFonts and Compugraphic fonts or 'Intellifonts'. Amiga bitmapped fonts and ColorFonts (many coloured bitmapped fonts, just like the ones Deluxe Paint uses) are printed at their screen resolutions, which is about 75 dots per inch. Consequently, they look jagged and rough around the edges, but the bitmapped fonts for you Intellifonts, on the other hand, are scalable and, when handled correctly by the program (and Wordworth 2 does handle them properly), can be output at the highest resolution your printer is capable of. Even on 9 pin printers the output quality is significantly better than with Amiga bitmap fonts.

The price you pay for this quality is memory and speed. Wordworth 2 requires 1.5Mb of memory, anything less and it won't load Intellifonts, especially in large point sizes, use lots more memory, and if the documents you

went to produce are the kind that feature pictures and smooth text in different typefaces and sizes, then 3Mb of memory is probably a more comfortable figure.

The program comes supplied with 17 Intellifonts. It can use the ones that come with Workbench 2, and it can use the Professional Page type of Compugraphic fonts, which means it'll work with those hundreds of PD Compugraphic fonts you may have seen advertised.

Because the files are so large and need to be accessed regularly, Intellifonts can be a little awkward to use from floppy disk, but if you've lots of memory it is possible to have a fonts directory in RAM, which cuts out all the disk swapping. But the only way to speed up the time it takes to print documents set in Intellifonts is to buy an accelerator. On a standard Amiga 500 expect a page to take half an hour to print on a standard 24-pin printer.

PRINTER SUPPORT

Wordworth's strongest point is arguably its printer font support. It knows about many different typefaces that are resident in many popular printers — 172 of them according to the manual. It comes with screen fonts for the typefaces in printers like DeskJets, LaserJets (including PostScript), bubble jets, and many of the Epson compatible 24 pin and 9-pin dot-matrix printers. You can use these typefaces freely in any document.

Wordworth's graphics facilities are nothing

picks the closest colours in its existing palette.

You can fiddle with colours until the cows come home, but at the end of the day you are only going to get good results if the palettes of the graphics you import match *Excellence's* palette. And although the colour scheme gets saved with the document, if you alter *Excellence's* palette and import a document that has a different colour scheme, the colours in that document will get remapped to the new *Excellence's* palette. More psychodrama.

POOR PRINTING

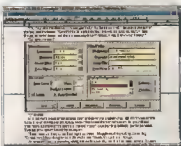
Output using Amiga bitmap fonts and graphics printing is poor. No attempt is made to increase the output resolution of these low resolution screen fonts, and even the scalable Compugraphic typefaces are output as they look on-screen (jagged) instead of being printed smoothly as 'outline' fonts should.

The resident fonts in printers can be used, but only one per document by means of the Font Number gadget in the Print requester, and only then if the printer driver supports this 'font number' feature. How do you tell? The manual suggests selecting different font numbers and seeing what happens. Gee thanks, MSS. This remedy is not good enough. I want to select printer fonts on screen. I want to use this printer font for high quality output work, but for bashing out words or lot preparing documents that are going to be printed using just the one printer font (plus italics, bold, underline), *Excellence* is certainly competent and less than half the price of rival packages.

CONCLUSION

The only saving grace is the price. Even with the colour end printing frustrations, at under £40 it has to be a bargain. It's not good enough for high quality output work, but for bashing out words or lot preparing documents that are going to be printed using just the one printer font (plus italics, bold, underline), *Excellence* is certainly competent and less than half the price of rival packages.

Workbench 3.5 users can select Compugraphic fonts, but they still print jagged and are hardly worth the effort.



The Preferences requester allows you to customise the standard display defaults to just the way you like them. The large display spring checker is useful, but the British Telecom only supports monochrome.



EXCELLENCE! 3.00

at a glance

- No price setting up required • Very user friendly interface • Aggressively priced • Good to look on as a disaster • Print Andgo and Compugraphic font support • Only one printer font on screen

Address: Commodore 3.00 can be obtained from MS Marketing Ltd on 0732 000000.

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'Cheap but very, very cheerful'

EASE OF USE	90%
VALUE FOR MONEY	92%
EFFECTIVENESS	41%
FLEXIBILITY	87%
INNOVATION	29%

OVERALL 79%



Formatting details for the whole document can be set from this requester. Individual paragraphs can be formatted separately via the local bar and rules line.

Wordworth can remap imported graphics to its own palette, or

used most in the graphic. If you load another graphic that has a different palette, then you can ask Wordworth to use this new picture's palette, but then the colours in the previous graphic will get altered to the new ones, which will probably make it look really weird.

There is a Remap facility which will attempt to build a compromise palette, sometimes it works okay, particularly for monochrome output, but on the whole you end up with two bad pictures instead of one good one and one bad one.

So, to use coloured graphics in Wordworth properly it's best to create them all with the same palette. Basically, work out the 8 or 16 screen colours that print best on your printer, and stick to those. For monochrome pinpoints you could use *Deluxe Paint* or a graphics conversion package to convert all your pictures to the same 16 shades of grey. With black and white clip art there is no colour conflict problem, of course.

CONCLUSION

Wordworth has most of the features required from a top class professional word processor, and it looks and feels like a great piece of software. It's one of those programs that you like to use. As you learn more and more about its features it inspires you to produce better looking documents merely because you want to use the latest feature you've learnt about. Inspirational, that is the word.

WORDWORTH 2

at a glance

- Cheap option, best support • High quality Compugraphic font support • Full PostScript font support • Multiple printer fonts in one option • Many popular printers directly supported • Excellent on-line help days after sales support • A much more powerful and just a lot for the money.

Address: Wordworth 2 costs £129.95 from Digital International Ltd, South Horns House, Enniscorthy, Wexham E40 1AL, Tel: 0336 270675. You can upgrade from Wordworth 1.0 for £49.95. Digital International Wordworth supports monochrome and true colour, and has full CalComp font support, it upgrades from non-Apple word processors for £39.95.

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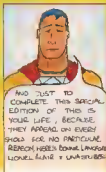
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ART GALLERY



LOOKING AT TROUBLE. This fierce picture of a roaring tiger shows some excellent skills and artistic choice. Framed in D-Point III, 18 colour medium resolution, by Steven Richardson of Sole Mox, Cheshire, in this fine animal picture.



DANGEROUS DRAGON. Here's one that's fiercer than the tiger in this painting of a pair of flaming reptiles. Drawn by Richard Morley of Oxfordshire, using D-Point II, it was inspired by the cover of a copy of 'Dragon', the role-playing games magazine.

SHOW IT OFF!

If you have a picture you consider worthy for inclusion in the Art Gallery, send us an JPE disk showing your drawing at several stages of development, as well as the completed glory. Please include a description of how you produced the effects displayed in each shot - your advice could help and inspire others.

Send your Disk to: CU Gallery, Priory Court, 50-52 Farringdon Lane, London EC1R 3AJ.

We're constantly amazed by the artistic skills and ingenuity of CU readers. Art Gallery is here again to show off the best of the bunch. This month's pick highlights three talented artists.

MAKING A SPLASH Sergio Percibelli of Peterborough recreated this piece from a painting by Toshikuni Ohkubo using D-Point III in low res, 64 colour mode.



1 To begin with, the main areas were outlined.



2 The background colours were added with a large square brush. The splash was then applied to the areas displaying marked contrast.



3 As this point Sergio concentrated on the paper. The highlight is particularly important if a sense of roundness is to be achieved. Here that, in the hair of the figure, a reflection has been added.



4 The drawing is finished with traces added on the figure and the splash (including the reflection of the paper) we can see just how convincingly a three dimensional object in motion can be portrayed. Sergio took about 13 hours on the drawing - time well spent. In CU a opinion.



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4



THE AMAZING TOBIAS



Although Tobias has worked on a number of commercial games, he's also self-published the best Star Trek game in a year on the Amiga so far. Definitely worth a look.



AMAZING ANIMS

Living in a computer-generated world populated by 3D renderings of the USS Enterprise, X-Wing fighters and anything else with a sci-fi theme, Tobias Richter has helped reinvent the Amiga's already awesome graphics and animation capabilities. CU Amiga readers will already be familiar with Tobias' work as his Public Domain disks frequently crop up in PC Scene and, just as regularly, get voted demo of the month. If you haven't come across his stuff before, then you really are missing out on some classy state-of-the-art animations. The spectacular images we've reproduced here look a thousand times more effective when they're part of a 3D animation. Imagine the USS Enterprise warping across the galaxy, blasting away with its photon torpedoes at a gigantic Klingon battle ship or a squadron of X-Wing fighters on a bombing run across the Death Star and you'll get an idea of what I mean.

Nearly all Tobias' work revolves around a sci-fi theme, and this usually means Star Trek in some form or other. As Tobias explains: 'I'm very much into Star Trek. It's a great show, promoting universal peace and co-operation between races. It's probably the best sci-fi show ever created. My best known work revolves around the show—but that's not all I produce. I've done things like a motorway car chase, zooming in and out of a 3D Pool table [Archer McLean sat your heart out!], some Blade Runner-type graphics, commercial games, videos, and lots of other stuff besides. It's probably true, though, that I put more effort into the Star Trek stuff just because I'm so interested in the series and the folklore that's grown up around it.'

Tobias' Star Trek work has even come to the

This stunning 3D Renaissance drawing was just one of many excellent pictures included in a Crusaders compilation disk of Tobias' work.

attention of some members of the original cast of the show. At a Trek convention in the Bavarian town of Nurnberg last year, James Doohan (Scotty) was very impressed with Tobias' stunning animations and Weller Koenig (Chickov) has even signed him up to do some computer animations for Moontrap 2, a new sci-fi movie due for release in early '94. 'I'll be doing the animation for the space ship computer displays. Lots of graphs, radar—that sort of thing.'

LOST IN SPACE

Tobias' latest release, Space Wars, is a huge 150Mb animated movie he's transferred to video tape and which is on sale from 17-Bit in this country. We've got a full review of it elsewhere in this feature, and it really is a breathtaking piece of work.



This stunning sequence of shots is available from most PC libraries and shows the USS Enterprise leaving 87's dock.



The U.S.S. Enterprise has figured in many of Tobias' animations and static screens. Above are two shots from one such shot and which simply demonstrate the German artist's attention to detail.

WORLDS OF... RICHTER

In the first of a series of exclusive interviews with some of the top creative people currently using the Amiga, Dan Slingsby takes a look at the brilliant 3D animations of Tobias Richter.



that took the German-born animator months to produce. "It's most definitely my finest work to date. I'm very proud of it. I thought the Death Star sequence at the end of the first Star Wars movie was brilliant and I set myself the challenge of creating its computer equivalent. It's not just a straight copy, as I've included lots of other things besides. I mean, the original movie certainly didn't have the USS Enterprise making an appearance and the humour I've included is a bit warped, too. This involves things like a Coke can replacing the bomb that finally destroys the Death Star and some Robin Reelfelt like samples for the engine noises of the space ships.

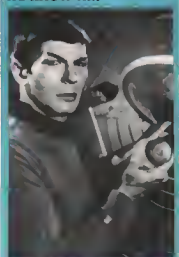
"I've done a couple of other videos, too," explains Tobias. "The first one is a Trek-based movie, lasting 11 minutes, involving the Enterprise engaging a Klingon cruiser. It's a little like Space Wars, but not as good, as I created it more than two years ago. The other video, Mouse Track, was a demo reel I made for the German distributor of

Imagine the money that the BBC could save if they just employed Tobias to do all their special effects..."

Reflections, an excellent 3D animation package that I use for most of my work. I made it together with a friend in just under one month. It's about five minutes long and features a mouse and trackball in a sort of 'Tom & Jerry' chase. The only way I can get my more complex work to a wider audience is by using video. Floppy disks just cannot handle the amount of memory these things take up — my latest project would fit more than 200 floppies!"

But it's not only movies that Tobias is moving into. He's already done a handful of commercial animations for industry and TV — including nearly all the animations for the German equivalent of Sporting Image called 'Hurra Deutschland'. "I'm currently working on a big animation for another German TV show," mentions Tobias. "It'll be about 30-40 seconds long, and be in 24-bit. It's going to be used as an intro for a one-hour show."

IT'S LIFE JIM, BUT NOT AS WE KNOW IT...

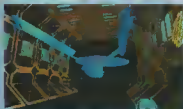


"Tobias is a devoted follower of Star Trek. Here he is in other words: recent plastic surgery."

Tobias currently lives and works in Cologne, Germany. Still only 25 years of age, he bought his first Amiga in 1985 and, three years later, upgraded to an A2000. He chose the Amiga over the then popular ST because of the graphics capability of the new machine. "When it first came out, the A1000 was a revelation. No other machine could copy it for its graphics prowess. I currently run an Amiga 2000 with lots of stuff built on including a 1024K board, a 40MB hard disk, 5MB memory, a Kickstart, a 17" Ecm monitor and lots more besides. On the software front, I mainly use Reflections, DPaint IV, Art Department, Scale and Viewscope, although I'll have a look at almost anything new and use it if it is any good.

Over the years, Tobias has pruned out a steady stream of 3D animations and allsorts commercial games and even sitcom. His first published work appeared on his own AGA1000 label and was single adventures and basic animations created using DPaint and Viewscope. The AGA1000 label does house a collection of over 90 titles, most by Tobias himself, although he has collaborated with other users here and there. "It's impossible to list them all, as I've lost track of the exact number and even wiped some of them from my hard disk. Most work with 2MB of memory, although all my new stuff is much more memory intensive."

For that of my 3D animations I use Reflections and Reflections Animator. That's a German raytracing package — very powerful and fast. At the moment, I render most of my anims in DCV format. I use Deluxe Paint IV for creating the textures and sometimes for postproduction. Besides that, I use Art Department for picture resampling and Scale for the animation playback. In some cases, I use the Viewscope, which I noticed you gave away on a recent newsletter."



Travelling slowly past the various hangars, the star ship gradually emerges from its berth for adventures ahead.



Form of the Star Trek movie might well recognise this scene, as it is based on the first movie when Kirk commences the trip to go boldly where no man...



about comics and show a space ship from outer space travelling through the solar system to Earth.

If all this wasn't enough, he's also recently written a book and regularly writes for most of the German Amiga magazines. And then there is his games work. Tobias has provided the graphics for a wide variety of games, including *Out Imperium*, *Cubitus*, *Bon Voyage*, *Conquestador*, and *Bundesliga Manager Professional*. Phenix Where does this guy find the time?

NEW MACHINES

Like most other users, Tobias is a tad impressed with the A4000. "Yes, a wonderful machine. Commodore were losing out to the PC, but this new machine has nudged them ahead yet again. It's excellent for graphic artists, although the lack of professional mental functions is a real drawback. They should have spent a bit more money on a real tickler. That aside, the Amiga is now a much more attractive option than a PC. You have to pay an awful lot of money for penlocks and graphic cards on the PC and these are much cheaper on the Amiga. And, of course, the Amiga's multi-tasking capabilities and the incredible amount of specialized software make it the number one choice for me."

The CDTV also holds some interest for our German-born animator. "The CD medium is a very interesting area, especially for animators," confides Tobias. "One of the problems with the CDTV, though, is the incredibly slow processor and the slow access time of the CD drive. I'm waiting for a writeable (and affordable) CD drive—that would be a great help in creating professional animations. If you consider that one frame in Videoresolution and 24-bit normally takes up 1Mb then it certainly makes sense. With 25 frames per second, a CD would be the best storage medium for that much data. I'm not sure that Commodore have got it right with the CDTV, but I'll reserve my judgement until CDTV2 comes out next year."

So what of the future? "I plan to start working on real workstations next year—either on my own or at another company. But it's VERY expensive to get into the professional animation market. You have to pay at least £20,000 to get the equipment and the software to run on it. And you also need the necessary video equipment, too. But I'm not giving up on the Amiga as I think it's a great machine and I'll probably still be using it years from now." Let's hope so.

SPACE WARS

Using the raw power of the Amiga, Tobias is taking us more than 150M of disk space, and presents it as a rising live minute video. Tobias' latest project is *Star Wars-style* daylight involving Imperial Cruisers, the Millennium Falcon, and X-Wing and Tie-fighters in a fight to the death. There's even a special appearance of the USS Enterprise which materializes in deep space and sets about the Imperial forces with its photon torpedoes.

With an original sound track, it is hard to believe that this is just an animated movie. Anyone who's seen the recent PC screenshoot of the forthcoming Lucasarts' game, *X-Wing*, will gag at the sight of Tobias' excellent 3D renderings. Other graphical treats include a charge through a minefield, a run past the Death Star's defences and a fly past by an Imperial Cruiser that heats anything you've seen in the original movie. If you're other side of the art-ray traced animation or just want to see what the Amiga is really capable of, then you just have to buy this video. It's available from '17 Bit Software, 1st Floor Offices, 2/8 Market Street, Wakefield, WF1 1QH. It costs £11.99 plus 75p P&P.



As your X-Wing fighter closes in for the kill, your HUD brings up signals you're locked on for a kill. Simply press the trigger and this guy is so much space dust. These simple graphic displays might be easy to put off, but they do add immensely to the atmosphere of the movie.



These video grabs don't really do the space wars movie much justice. The animation is absolutely stunning and you'll soon forget that you're watching a computer-drawn animation instead of a live-action sequence.

PD SCENE

Diving headlong into this month's skipload of Public Domain releases, Tony Horgan casts a dilated pupil over the best of the bunch.

JESUS ON ES music demo



NOW HEAR THIS! LSD's Jesus on Es is the best music demo ever to hit the Amiga! First, let's get the bad news out of the way: to run the demo you need two floppy drives. Now for the good news.

What we've got here is a non-stop 27 minute rave demo, with a killer soundtrack and some of the best visuals you'll ever see. The flavour is hardcore techno with a crispy rave topping, but it starts off with a few smooth bars from Mike Oldfield's original Tubular Bells. It comes the rave breakbeat over the top, and you're just seconds away from the full assault, which crashes in with a big buzzy bassline. The freakout graphics are synchronised with the soundtrack throughout the demo, combining the audio and visual experiences into one.

Ever onward, the soundtrack chugs away with loads of hands-in-the-air vocal samples, tons of squidgy techno loops, spine-tingling Omen-style choirs, and a constant supply of new drum loops. Meanwhile, the graphics just get better. Zoo TV style strobes flash up, with all kinds of logos, including a split second appearance from Fat Freddy (of the Freak Brothers fame), with quickfire subtitles accompanying the vocals. Along with the pulsating, gyrating blobs of colour, we're also treated to some brilliant full screen digitised animation loops, featuring skaters, clubbers and gymnasts.

From start to finish, the music never once gets repetitive, and the graphics are still fresh when it all winds down nearly half an hour later. This is absolutely brilliant stuff. SEND FOR YOUR COPY NOW!

Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorks, WF1 1DH. Tel: 0824 366262. Disk no. 2268 a+b. Price: £3.00 (including P+P).

97%

BATTLE OF BRITAIN animation



The ghost of Eric Schwartz comes back to haunt PD Scene as many young artists are to illustrate his style.

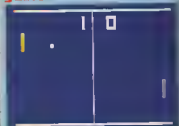
It's Aerotons time again! Or is it? Actually, this isn't the latest release from Eric Schwartz, but a new cartoon from Steve Hood. However, the Schwartz factor is very strong throughout the very brief 25-second animation.

The opening scene has a German bomber chugging through the skies over the Channel, following signposts to England that have been stuck into the clouds. Keeping a vigilant eye out for the enemy, the bomber comes across another signpost, this time pointing back in the opposite direction. Enter a cheeky Spitfire, who wraps up the cartoon by planting a whole load more cock-eyed signposts in the next cloud. It's hardly side-splitting stuff, nor original by any stretch of the imagination, but it is a promising start.

Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Disk no. 13/A1. Price: £2.50 (including P+P).

50%

PONG game

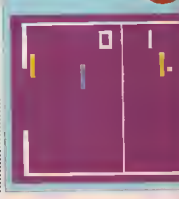


Aah... we were easily pleased in those days. A couple of rectangular bats, a square ball, and we were in TV game heaven. Well, it seemed pretty good then, compared to the alternative of a game of Twister with your little brother. Now you can relive those carefree days with Pong on your Amiga. There are four variations on the basic bat and ball theme: football, tennis, one-player squash and doubles squash. Don't expect any 16-bit multi-colour hi-res updates on the old games though, they're exactly the same as they were on the TV game consoles.

It's fun for a while, but Pong would be best suited to a game compilation or part of some other bigger production, especially as it's only just over 6K (yes, that's just six Ki). As a disk on its own, it does seem rather pathetic compared to the better PD game releases, hence the low mark, even though I quite like it.

Available from: Claudio Buraglio, PO Box 12, 39012 Merano, ITALY. Price: send disk and return postage.

37%



FORGOTTEN

slideshow

It's all very well getting a video digitiser and pointing it at a book of tentasy art, but if you really want to impress with a slideshow, you can't beat some good original graphics. Anyone can grab a picture from a book, but to hand draw a collection of pictures like these takes real talent.

The Forgotten slideshow from Mirage takes a far more professional approach than most, with a very slick picture selector. A roll of canvases scrolls up and down the screen under your control, with pictures selected by clicking on the minitinted versions. The pictures themselves have been expertly drawn by hand, with a predictable tentasy theme running throughout. Shaded extremely smoothly in hi-res, these are some of the most impressive graphics I've seen in ages. Each one appears on screen with one of a number of smooth fades, and there's some pleasantly unobtrusive music to back it all up. The quality drops a little in one or two of the pics, but it makes up for the slight inconsistencies with things like the massive two screens-wide epic, which has to be scrolled under mouse control to get the whole thing on screen. Available from: Mirage, Clitcrislan 3, 3438 CB Nieuwegein, Holland. Price: enclose disk and return postage.

92%



FLOWER POWER

demo

Give me a short snappy demo over a long crib one any day. Anarchy have done exactly that with Flower Power. The ghost of the Trip to Mars animation is back to haunt us once again for the first part of the demo. A couple of simple vector spaceships dart around the streets of a familiar solid-vector city to the sound of Jingo-esque chords and techno rhythms. Off they go into the only blackness of space, where we tumble through a bob starfield of multicoloured asteroids, eventually coming in to orbit a daisy-covered planet, which approaches courtesy of a totally snappy realtime 3D zoom.

Next up are a few plasma related vector effects (by this time the music is starting to sound strangely like the Genghis Khan theme tune), followed by a clever semi-transparent sphere, which bounces in and out of the screen like a giant soap bubble. It's all rounded off with a nice bit of hi-res, lustrous artwork. Not a classic, but a good little step gap n'fill the next megademo.

Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorks, WF1 1DH. Tel: 024 358982. Disk no. 2269. Price £1.75 (including P+P).

70%



SPEED LIMIT

animation



Now that ray traced demos are no longer impressive simply because they are ray-traced, animators are starting to put a lot more time into the direction of their mini-movies. Needing three megabytes to run, Speed Limit comes from Ciag Collins, and although it borrows the ever-popular light cycles from Tron, it's definitely one of the more original and imaginative animations around at the moment.

A futuristic motorway complex is the setting. A couple of hypered-up bikers are locked into a race, when they unwittingly run through a police radar trap. Morphing itself from an innocent-looking splooge on the tarmac, a police bike assumes its true form, and gives chase. A few spectacular tracking shots later, the police bike overtakes the speeding pair and darts around the next bend, where it morphs once more, this time into a brick wall stretching right across the road. As the victims come careening round the blind bend, the wall comes into view, but it's too late, and they're reduced to a shower of steel shards as they plough into the barrier. A quick morph later, and the police bike is back to its normal state, and off to catch the next felon. You have to watch it through a few times before you can suss out what's going on, but there are some excellent details in there, and the whole thing's got a great spooky atmosphere. Available from: 17 Bit, 1st Floor Offices, 2/8 Market Street, Wakefield, West Yorks, WF1 1DH. Tel: 024 358982. Disk no. 2217 s+b-c. Price: £3.75 (not including P+P).

83%

CASH FRUIT

game

The idea of a fruit machine simulator on a computer sounds pretty silly, but they can be quite good fun if they're done well. Plenty of features, flashing lights, skill stops, hi-to reels and all that lot can translate well to the computer screen, even though you're not actually winning or losing any hard cash.

Cash Fruit is halfway there, with the usual feature lit up by numbers on the reels, which leads to a number of subsequent features, but it misses the

mark on the flashing lights, spinning reels and general novelty value, although it does its best to keep the excitement up with some good stereo-panned sound effects. Worth a look for broke lousy addicts.

Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Disk no. 13/54. Price: £2.50 (including P+P).

77%



PD UTILITIES

Tony Horgan, the man with more samples than the Top 40, takes a look at the best new utilities currently circulating the Public Domain.

NASP V3.0 SOUND/SAMPLER



The main problem with sampler programs on the Amiga is that they're just too awkward for a beginner to use. Let's say you're not back from the pub, and you

lancy a bit of a rave session. By the time you've messed about loading up samples and stringing them together, everyone's gone home or gone to sleep. This is where NASP comes in, giving even a complete imbecile the chance to become an instant rave DJ.

Compared to MED or Soundtracker, NASP at first looks pretty useless. It can't sample, it can't

record a sequence, and can't save out modules or song files. What it can do is assign various IFF sample loops to the function keys. You can then play them back by holding down the function keys, up to four at once, or two if you're using stereo samples.

NASP comes with three sets of samples for you to play with, taken from some badly late-techno records. They're grouped into sets of loops from the same record, so that they all play in time and in the same key. F1 could have the bassline on it, F2 could have a keyboard riff, F3 might be assigned to the beat, and so on up to F10. By assigning in and dropping out the loops you can instantly improvise your own remixes. It's so easy to do, as long as you can hit the keys in time with the samples, you can't go wrong!

Samples are played from both Fast and Chip memory, so you can have some really long loops on the go. Simple, easy to use, and excellent fun. Available from: Megablitz PD, 86 George Street, Newcastle, Staffs, S75 1DN. Price: £2.00 (including P+P). Competitibility: All Amigas. **90%**

DEL UTILITIES 2 FILE MANAGER/ DEMO CREATOR

Let's face it, when it comes to alternatives to the CLI or SHELL, SID has got things all wrapped up—for now at least. Undeterred, PD programmers continue to release their own file managers, the



is *The Amiga Operating Theatre V2.0*. This is the main program on the disk and allows you to copy files, make directories,

display IFF graphics, play sound samples, view ASCII text files, read directories, play Soundtracker modules and test the switches on your joystick. All of these features are accessed via a neat control panel, so even a complete novice can use it. Operating Theatre is quite a way behind the latest release of SID in terms of power and features, but it's good to see alternatives still cropping up.

Also on the disk is a program called Cycle Play V1.0, a kind of instant rave demo maker. Load any standard Soundtracker module (there's no MED or Protracker 2.0 support), and it plays your module while flashing up a barrage of multi-coloured strobing patterns.

Disk no. 13/U1. Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Price: £2.25 (including P+P). Competitibility: All Amigas. **71%**



ACCOUNT MASTER V2.0 SPREADSHEET

Flats, mortgages and HP are getting you down, you'd better steer clear of Account Master—it'll only rub your nose in it. If, on the other hand, you're doing quite well thank you, then you might like to wallow in your financial comfort by keeping a record of your income and outgoings.

Although Account Master was written in AMOS, you wouldn't guess from using it. It's dressed up in Workbench 2-style windows, and uses standard menus and requesters throughout. Home accounts are what it's really aimed at. By entering debts or credits to your account, the program keeps a running total of your balance. Transactions are entered as a date, a description of the transaction, a single letter code specifying the type of transaction, and the amount debited or credited. This is then added to the rest of the account, with the balance updated accordingly. Standing orders can also be accounted for. Tell it when and how much to take out and using the Amiga's internal clock, as you boot up, the program automatically logs any debits that have taken place since it was last used. Accounts can also be output to a printer. It's well presented and easy to use.

Disk no. 2290. Available from: 17 Bit, 1st Floor Offices, 28 Market Street, Wakefield, West Yorks, WF1 1DH. Tel: 024 365962. Price: £1.75 (including P+P). Competitibility: All Amigas. **80%**

LYAPUNOV FRACTAL GENERATOR

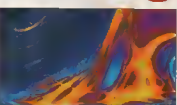
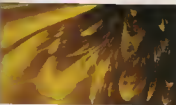
Once you've seen one fractal-generated picture you've seen them all, right? Well, that's what I thought, until I booted up the curiously named Lyapunov. Although it's just a simple two-dimen-

sional fractal graphics generator, it manages to come up with a very different style of image. Instead of the usual big blob surrounded by little blobs, with Lyapunov you get weird algae-like growths.

There's a slideshow on the disk, which runs through a selection of images created with the program. You can change the palette, the size, and

the algorithm used to generate the graphics, but perhaps inevitably, they all come out looking much the same as each other. Still, it makes a change from the hackneyed old fractals we're used to.

Disk no. 13/U3. Available from: NBS, 1 Chain Lane, Newport, Isle of Wight, PO30 5QA. Price: £2.25. Competitibility: Not Plus. **71%**



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With the November '92 issue we gave away the commercial 3D animation program Videoscape 3D. This month we'll conclude the tutorial series with a look at some of the program's more advanced features.

BACK AND FOREGROUNDS

If you've been following the previous tutorials, you may be wondering how you can create a more convincing scene for your animations. The simple sky and ground combination is okay for some applications, but if you want to give your creations a professional look, you should add your own backgrounds. Any standard IFF picture file can be loaded as either a background or a foreground.

To see how it works, set up an animation sequence as we discussed in the December issue. Before running the animation, click on the **LOAD BACKGROUND** box. Find any disk with an IFF picture file, and put it in any drive. Select the picture from the file requester, and then run the animation as normal. By clicking on **BEGIN ANIMATION**, you'll notice that all your 3D objects are overlaid on the background picture. If you clicked the **LOAD FOREGROUND** box instead, the picture would be laid over the top of the animation. The animation will only show through the parts of the picture that are filled with colour zero, the background colour. Any other colours have priority over the images behind.

PLACING THE LIGHT SOURCE

Although Videoscape doesn't ray trace, it does use light sources to give realistically shaded surfaces. By clicking on the **SOLID** box, you can define the direction and intensity of up to four light sources. A window will appear with slots for the X, Y and Z orientations of each light source, along with their respective intensity values. The co-ordinates are all relative to the origin, the centre of your world.

EGG AND CHIPS

Until you've got the hang of using the ROT editor to make your own objects, you may find the EGG (Easy Geometry Generator) utility saves a lot of



time. Double-click on the EGG icon from the Videoscape disk window. A GUI window opens up, giving you the option of creating any one of nine basic objects. Enter the number of the object you want and press RETURN. Depending on the type of object, the program will ask you for a few sets of co-ordinates, to define the size and shape of your creation. Have your Videoscape disk wisely enabled (with the tab closed) in the internal drive, so that EGG can save the object in the GEO directory. You can then load your new object into the main Videoscape program.

3D MORPHING

Morphing is the smooth transformation of one shape into a new shape, carried out over the span of one complete scene. To use this effect, you first load one object into Videoscape and then load another. Then select the YES button labelled **METAMORPH LAST TWO OBJECTS?** in the **OBJECT DESCRIPTION** panel of the control window. The only prerequisite is that the two objects have the same number of points. When the scene is run, the metamorphosis takes place.

When Videoscape 3D morphs an object, each point in the second to last object loaded simply moves in a straight line toward the corresponding point in the last object loaded, getting there at the end of the scene. Point 0 moves toward the new point 0, point 66 goes to the new point 66 and so on. Be prepared for some strange results if your corresponding points are on opposite sides of your objects. Surfaces will 'pull through' one another as they move to their new positions!

The more involved task is the creation of two objects with the same number of points, but with EGG and OCT it needn't be too difficult.

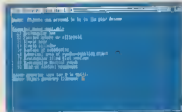
1. First create an object to your desired specifications using EGG.
2. Load the object into OCT and use the scaling feature to squash or stretch it into a new shape.
3. These two shapes can now be used as the 'before' and 'after' shapes for a morph. The original object that you alter with OCT could just as easily be a hand-made creation, since OCT does not alter the number of points or polygons in objects that it distorts.

An alternative means of creating two morphable objects once again involves EGG, but in this case you won't necessarily be using OCT.

1. Run EGG and create the object of your choice and specifications. Take careful notes on the values you enter in response to all of the prompts.



Dramatic lighting can improve a scene's impact to end. Click on the **SOLID** box to bring up the requester and input your own choice of light source direction.



Another short cut can be accessed via the supplementary Easy Geometry Generator (EGG) utility which can save you precious time by automatically creating cubes and cones.

2. Restart EGG and select the same type of object. This time you use the same answers for prompts that affect the number of points and polygons (such as number of rings and number of points per ring), but different values for things that don't affect them. These are such things as maximum Y values and radii. As a note of interest, fractal patches always have 256 points.

COLOUR CODES

At times you'll have to hard the colours of your objects in the form of numbers. Here's a list of the available colours and their corresponding numbers.

COLOUR	MATTE	GLOSSY	UNSHADED
black	0	18	32
dark blue	1	17	33
dark green	2	16	34
dark red	3	20	36
brown	6	22	38
grey	7	23	39
light blue	8	25	41
light green	10	28	42
light red	12	29	44
yellow	14	30	46
white	15	31	47

For left: Adding backgrounds to your animations allows them up to size. Take the computerized edge off them by impacting backgrounds from Deluxe Paint.

Left: Foreground overlays can also be used to good effect. The illustrations show through the holes in your overlay, so you can really come up with necktie or wibbly effects.



ADVANCED TECHNIQUES

The two objects so treated may be distinctly different in size and shape, but they will have the same number of points and can be successfully morphed.

Now let's have a look at some specialised techniques with Videoscope that might not be obvious at first. Some of these are tricks for achieving certain visual effects that would be impossible or very time-consuming to accomplish by simple methods, so don't try them until you've mastered some more basic scenes.

1. QUICK SCENE RENDERING

Fixed camera scenes that have complex, non-moving background objects (like a city or a fractal landscape) can often be rendered faster by first capturing a view of the background objects as an IFF image, using the ' key on the numeric pad. When generating the final scene, use the IFF picture as the background instead of making Videoscope render the objects themselves. Be sure to put the IFF file in the RAM disk before entering the scene.

2. POLYGON RENDERING

Sometimes it's desirable (or hidden surface removal) for particular polygons to be rendered before everything else. For example, to show a car on a stretch of road, the road should be drawn first (otherwise it might obscure part of the car). Since polygons are sorted by their distance from the camera, incorrect sorting can occur if the car is further from the camera than the centre of the large polygon representing the road. To prevent any such problems, the road polygon can be made into a detail of a distant polygon (detail polygons are allowed to be far away from their 'parent' polygons). This works because the distant polygon is drawn first, immediately followed by its details (in this case the road). The distant polygon itself can be hidden by making it ground colour.

3. SHADOWS

To make an object appear to cast a shadow on the ground, create a new object consisting of a single polygon. The polygon should have the same top view outline as the original object, but it should lie flat on the ground (its Y co-ordinates should all be

zero). For best results, use a darker shade of the ground colour for the shadow. If the shadow will pass over different ground colours in the same scene, black can be used. Also, the shadow polygon may have to be subdivided if show-through problems occur. Give the shadow a motion that will keep it directly under the original object. More complex variations of this method can be used if the lighting direction is not straight down or if the original object changes pitch or bank during the scene (in which case the metamorph feature might be useful).

4. REFLECTIONS

You can portray mirror reflections in Videoscope. As an example, an object can be shown reflecting off the surface of a pond by adding an upside-down version of the object below the water-level. Use an IFF foreground painting to represent the ground with a transparent area for the pond itself. When setting up the scene with the control window, set both background colours to the desired sky colour, and load the main object. Then load a copy of it which is flipped over and place directly under the original object, as far below the pond as the original object is above it. From certain view points, the second object and the background colour will appear through the hole in the foreground painting, creating the illusion that the original object and the sky are being reflected by the water. Symmetrical objects like spheres are the easiest to use, since they can be flipped simply by specifying a pitch or bank angle of 180 degrees. Also, the lighting direction should be parallel to the reflecting surface, so that the shading on the reflection will match that of the original object.

5. CHANGING PIVOT POINTS

There are two ways to make an object move along a circular path. The standard method is to create a motion file containing several key points around the circumference, letting Videoscope's smooth interpolation move the object between these points. A more precise, but less general technique, is to use OCT to make a special object just for the scene in question. This new object should be a copy of the original object, but displaced by an equal amount to the radius of the intended circular path. Making the new object move is now as easy

as changing one of its rotation angles. No position changes are needed, since the pivot point is now stationary. As an example, an airplane can be made to perform an inside loop by lowering it down the Y axis by the radius of the loop (using OCT), and then changing its pitch angle from 0 to -360 during the scene. Modifying pivot points with OCT is a very useful technique. By carefully placing the pivot points of several objects, jointed mechanisms such as mechanical arms can be modeled.

6. METAMORPH EXAMPLES

Jointed object motion can also be simulated by using the metamorph feature, as long as the objects don't have to be perfectly rigid. To do so, simply set up two or more configurations of a multi-part object and morph between them, changing several scenes together if necessary. Even a walking figure could be animated this way.

Another metamorph trick is to build extra points and polygons into an object, hiding them by making them co-planar with (and the same colour as) the rest of the object's surfaces. Such a deceptively simple object can then be morphed into a much more complex-looking object. Many more metamorph ideas are waiting to be discovered.

7. INSTANT OBJECT APPEARANCE AND REMOVAL

A more obvious use of the linear motion interpolation option is to cause an object to suddenly appear or disappear in the middle of a scene. Objects can be kept out of sight by placing them behind the camera. When they are to appear, they can be instantly moved where they're needed by using a one-frame-long tween in their motion files. Objects can be instantly removed in the same way. An object can suddenly change into something else by combining the appearing and disappearing techniques. To prevent Videoscope from trying to smooth out these motions, it is important to specify linear interpolation in the motion files by making the tween lengths negative. Possible applications of these ideas include simulating lightning bolts, spacecraft steering thrusters, or flashing warning lights.

So there you have it. For examples of the kind of things Videoscope can do when it's pushed, check out some of the early animations from Tobias Richter, such as *The Run of FIE*. Who knows, maybe you too could become a legend in your own trousers. ♦

Here's an example of how you might want to use the automatic rendering order. If the road were drawn last, it would obscure the cars, so you have to make sure it gets first priority on the rendering list. By the way, this is taken from Tobias Richter's excellent demo *The Day After Tomorrow*. Check out the end credits of this other early work to see just what's possible with Videoscope 3D.

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JANUARY 1993

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Welcome to the second issue of Amiga Workshop, the place to find all the info on those slightly serious subjects. The revamp continues as we drift inexorably on toward the day when all will change.

COMMS

BOOK SHELF

SOUND
CHECK



CLUB CALL



BOOKSHELF

Sigma Press already have a wide range of computer books and this month three new Amiga titles come under the microscope. Paul Overaa dresses in a white coat and puts them in focus.

AMIGA MADE EASY PRICE £12.95

The book is aimed at newcomers to computing or, for that matter, anyone else struggling to come to terms with the Amiga. Its objectives are easy to provide some preliminary footholds into the world of the Amiga and its applications software, and secondly to introduce some elementary ideas about computer programming. Let's face it – even those who are relatively 'computer literate' can find the multi-tasking Amiga quite a handful to get to grips with at first. For the absolute beginner however things can be even worse and early encounters with such things as windows, the mouse, Workbench and the CLU/Shell may be nigh on traumatic. Luckily nowadays there are a number of books, such as this one, which can get you on the road to Amiga-literacy without causing too much brain damage.

Amiga Made Easy certainly starts

with the right approach – namely a nice easy-to-read introduction to the Amiga's operating system, which explains the benefits of a multitasking, window based, environment as they appear to the user. The early sections also discuss things like the purpose of the Preferences program, how to make backup copies of disks, and a host of other useful things.

With the machine introduced, the next few chapters look at some typical applications. Unfortunately, these are laced off with a relatively mediocre chapter on games, but things do get better and there are reasonably useful introductions to WordProcessing, Spreadsheets and Database applications (based respectively on the Scribble, Analyse, and Organza programs). Taken together these early chapters provide an easily read introduction to computing on the Amiga.

From chapter 5 onwards, with the preliminary environment/applications material out of the way, the book moves on to some real Amiga programming. The Basic language provides the vehicle for the discussions and here, at least as far as the current batch of Amiga newcomers are concerned, we hit a major problem – because the chapters, although perfectly well written, are based around the use of Microsoft's Amiga Basic. This of course was dropped with the advent of the A500+ and is no longer supported or provided with the Amiga's system software.

To be honest, some of the early programming material, code wise, is equally applicable to any Basic-type language but there's no doubt that the continual reference to the now defunct Amiga

Basic do tend to taint the book right from the word go. Nevertheless, there are some good general discussions of topics such as subroutines and program structure, if-then-else decision making and logical AND/OR type operations. There are also useful beginners tips on how to plan and design programs and some larger graphics based examples which show very clearly the benefits of writing properly structured programs. One chapter, which deals with some simple artificial intelligence and machine learning ideas, is particularly interesting but again is marred by the fact that Microsoft's Amiga Basic has been used.

To be honest, once you have a little Basic experience under your belt it is usually quite easy for programs written in one type of Basic to be converted to another. Certainly there are plenty of similarities between, say, HiSoft Basic and Microsoft's Amiga Basic but unfortunately most newcomers are easily thrown by even trivial language differences, so trying to use the Amiga Made Easy text with other Basics can't really be recommended as providing an ideal start for the beginner.

Having said that, things may turn out to be better than predicted. Quite a lot of the Amiga users who did get Amiga Basic ARE still using it. Moreover, there are doubtless some people who have Amiga Basic but who have so far been afraid to 'have a bash at programming'. Amiga Made Easy can certainly provide anyone in that situation with a suitably gentle push in the right direction and who knows – if it did encourage a few of those latent programmers to come out of the woodwork someone amongst them might decide to get Commodore to change their mind about Amiga Basic!

Amiga Made Easy is not a badly written book by any means and two years ago I would have heartily recommended it. Should Commodore decide to re-start bundling Microsoft

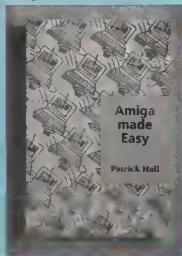
Amiga Basic with their machines I would do so again but at the moment I suspect the book will find that, through no fault of its own, it has a limited audience.

AMIGA GAME MAKER'S MANUAL PRICE £16.95

There are certainly no language reservations about this book because AMOS is undoubtedly the most popular Basic-styled language available on the Amiga today and this book is an AMOS programmer's goldmine. The early chapters provide a whole host of graphics-orientated notes which not only explain about using general AMOS graphics functions, but include tips about things like using strings to store RGB colour triplet values and hints about setting up colour palettes. Custom screens, Sprites, Bobs and AMAL (the AMOS animation language) are introduced early on and right from the word go the offering comes across as very much a 'hands on' type of book.

The code examples are good with plenty of comments, use of procedures, etc. and it's quite clear that Stephen Hill scores over many other AMOS offerings because he's writing about a programming area that he both enjoys and, perhaps more to the point, knows about. The Amiga Game Makers Manual is an apt title because it is not just a guide to games programming – both the technical and commercial sides of the 'game making' business are covered and the book is full of tips about game planning and design. Getting the initial ideas, producing initial sketches for artwork etc. You name it and, it's related to games programming, you are likely to find it in this book.

Another area that is covered in some detail is the translation of a detailed, but general, game description to real code. There are good accounts of how you identify the



major routines, produce pseudo-code descriptions, and generally break things down until you have sufficient detail to start coding. One particularly useful area of the book looks at particular types of games and explains how they can be implemented. A chapter on Arcade games, for instance, provides notes about using both static and dynamically generated movement tables (these are essentially lists of position co-ordinates which can be used to specify the path of a particular object). There are similarly good chapters on adventure games and role-playing games and, rather surprisingly, an easy-to-read introductory chapter on almulement techniques.

One of the nice things about AMOS is that it allows you to do a number of relatively complex things without having to get involved with the underlying Amiga system issues. Anyone who has written scroll routines in C or assembler, for instance, knows how dirty real-life scrolling can become and being able to do those types of things effortlessly and without leaving the AMOS language, is like a dream come true to many coders. I can honestly say that the chapter on scrolling techniques provides some of the best high-level explanations of scrolling I've ever come across. There are details of AMOS-style double-buffering, of rotating information by copying sections of the screen during the scroll, and even examples of pixel-level scrolling.

Another chapter provides the same sort of help with animation techniques and towards the end of the book you'll find some help with the sound and music aspects of Amiga games programming. Amongst the appendices you'll even

find notes about how to go about selling your programs to companies (the specialise in commercial games).

There are some disappointments. A number of facilities, such as the AMOS Interface language which are provided with the new AMOS Professional do not get covered. I should mention the material would have been left out had it been available in time but obviously the book was in an evidence state of preparation before AMOS Professional came on the scene. Fortunately, however, this book contains enough good material so as to be virtually irreplaceable as far as such omissions are concerned. Stephen Hill has put a lot of work into this book and it shows - if I had to recommend just one book to the aspiring AMOS games programmer at the current time, this would be it!

AMIGA REAL-TIME 3D GRAPHICS PRICE £12.95

This is a great book that you should be aware of at the outset that it is aimed at serious Amiga graphics coders and is not really suitable for the doughty graphics beginner. Having said that, the early parts of the book do discuss quite a few general 3D graphics terms and introduce the idea of co-ordinate systems, vectors and matrices, frames of reference for 3D objects, edge lists and so on. There are also some reasonably useful discussions on the Amiga's colour, intersection, bilinear scheme.

Real time 3D graphics on a standard Amiga obviously need every ounce of speed that's available, so it is not really surprisingly therefore that the examples in this offering have been written using 68000

assembly language. In other programming areas this might have tended to limit the potential audience but most programmers who are interested in graphics do go into 68k coding quite quickly (in fact there seems to be an ever increasing number of 68K Amiga coders floating around now days).

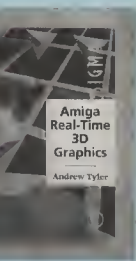
The Bresenham line drawing algorithm, which offers a fast and elegant way of drawing a line between two points, provides the first technical graphics discussion of the book. One example program is included and once a number of associated routines are used in later examples some fairly detailed explanations

of the routines are provided. Discussions of certain system areas such as low-level use of the Blitter, etc. are provided but to a large extent readers are expected to have access to, and be familiar with the appropriate Amiga system documentation (To all intents and purposes this means the Addison Wesley ROM Kernel and Hardware Reference manuals).

Mr Tyler tends to take a few liberties with his Amiga code and he does, for example, frequently make system calls using numeric flag values instead of the system-defined symbolic values that we all know and love. In what is presumably in the interests of speed he also does not always leave library function success/failure return values. Self-styled header files are used to define things like library call LVO values rather than opt for explicit lib1 and emaglib link-based solutions but most 68k coders of the sort of thing from time to time so I'm not going to niggle too much. It's actually quite good fun sorting out what's going on and let's face it - none of these coding quibbles are going to cause the intended readership any trouble whatsoever. Code-wise a lot of interesting material is provided and almost right from the start of the book generally useful goodies are thrown in. Chapter three for example, which deals with screen drawing, includes some nicely documented routines for polygon filling. Another elegant and important technique, which gets a suitably detailed treatment later in the book, is the Sutherland-Hodgman clipping algorithm. A lot of the general routines that Andrew Tyler has developed are, of course 68000 specific rather than being totally Amiga specific but that is exactly as things should be when writing assembly code.

Matrix/vector techniques and terminology do not really come into the picture until you get about one third of the way into the book. There are chapters on perspective transforms and rotation which are quite good and although the relative matrix descriptions of the transformations are provided the mathematics are not really discussed in detail. A couple of appendices are provided which deal with a number of essential mathematical ideas.

During the course of the book a lot of standard topics (hidden surface removal, scaling, shearing, reflection, inversion and so on) get



covered and towards the end there are a couple of chapters which look at the issues involved in creating flight simulator-type programs. There are some good common-sense explanations of the topics and enough theory and general ideas to make the book extremely useful. From a mathematical viewpoint readers get off quite lightly and an acquaintance with, say O-level type two-dimensional matrix operations will enable the gist of the various three dimensional transformations to be understood. By choice, you prefer to be 'mathematically lazy' then you can at least just use the assembler routines as written with out worrying too much about how they work!

The examples in the book have been written using Devpac and are available on disk (£8.95 including UK postage). I think it's fair to say that if anyone buying the book needs to get the disk right from the start because typing in, and assembling pages of 68000 code is always a nightmare (typo's, missed lines, and all sorts of other horrible realities creep in). Although Devpac has been used the book is not in any real sense Devpac specific and the translations needed if using other assemblers are quite trivial.

Amiga Real-Time 3D Graphics is an interesting, and quite specialised book that deals with a subject on which very little Amiga specific material has been published. Although the subject matter by its very nature is relatively heavy going, serious programmers will be able to get a lot out of this book. They will however undoubtedly have to work quite hard to do so and that, incidentally, should not be construed as a criticism - it's just a fact of 68000 life!

Amiga
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with
AMOS Basic
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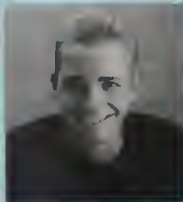
CREATURE FEATURE

Just the thing to clear the New Year's Day hangover – a load of ugly mugs peering from the pages of your favourite mag. If that wasn't enough, we then subject you to a load of fictional copy detailing the exploits of the Number 1 team.



STEVE 'BOWLY' PRIZEMAN

The man with the worst haircut in the world has not taken kindly to his new 'Bowly' nickname. In fact, he even threatened to introduce us all to his barber – a porcelain pudding bash and some hedge cutters. In between keeping his barnet neatly groomed, our dapper young staff writer has been writing his own short stories. These revolve around the super natural or are crime-related. He's even carried off third prize in his local paper's short story compo. New year's resolution: To find a decent barber.



TONY 'COVER MODEL' HORGAN

Tony has undertaken his last modelling assignment. No, it wasn't for Fangoria, but for sister magazine, ST Review, who were incredibly sad and cheap and refused to pay for a real model. Yes, it really does signal the death of the ST market, I'm afraid. Unfortunately, it also seems to be the end of an era for him and his much-travelled VW Van, which sits rusting in the street, waiting to be fogged off to anyone mas enough to take it. New year's resolution: Hoover the bedroom floor.



DAN 'TWO DRINKS AND HE'S ANYBODY'S' SLINGSBY

It's been a quiet month for Dan as he's finally managed to snatch a week's holiday – his last for 18 months. The sad thing is, he still came in every day to finish off a book he's writing. What is this literary masterpiece? Could it be some mighty tome that's set to shake the literary world to its very foundations? Fat chance. In fact, it's a huge 350 page hints and tips book for Amiga games. Buy yours soon (plug, plug!) New year's resolution: To get a proper job in the real world.



JONATHAN 'CHIP' SLOAN

The man who bares an uncanny resemblance to a Chipmunk has been busy organising his wedding. Jon and his intended, Claire, are jetting away for a romantic wedding ceremony on the beach of St Lucia in the Caribbean. And, the best bit, the title village where all this is to happen is called (wait for it) Couples. Ahhhhh. Apparently, Jon got on one knee during a romantic ballad at a Paul McCartney concert. You're all probably as speechless as we were when we found out New year's resolution: To burn his girlfriend's Paul McCartney record collection.



NICK 'WHERE IS HE?' VEITCH

One Tech Ed has been left alone in the Amiga lab with his A4000 where he has lived for the last three weeks. Nick is still bikeless after his machine was nicked from outside the offices and he's had to get used to using public transport. Unfortunately, this has given him yet another excuse for turning up late for work. He's also been practising his knife throwing skills for the upcoming Gamesmaster Live show so he can have some fun with the kids. New year's resolution: To turn up to work on time (this will be easily broken the first day back at work).

FOR BEGINNERS

If programming is what you want to do most, you've come to the right place. Let John Kennedy help you function properly in part two of his C tutorial.

PART 2

FUNCTIONS

The C language contains a very small number of instructions, which can sometimes lead to the false impression that it's not a very powerful programming language. The trick up the sleeve of Dennis Ritchie is the ability of C to provide you own new commands, called functions. Once defined, a function can be used like any other C programming instruction - you can even pass values into it, and receive values back from it.

A program written in C is a collection of functions, all passing data back and forth between themselves. A well-written program has functions which perform definite tasks, preferably in such a way that they can be re-used at a later date - sometimes by a completely different program.

Let's take for an example a breath-takingly simple program which prints "CUAmiga!" on the screen. Instead of taking the sensible approach and using the 'printf' statement from within the 'main()' function, I've split the program up so that the text is printed by a function of its own. The function defined is very basic, and neither expects nor returns any data. The program looks

like Table A.

Our main program - contained in the function called 'main()' - now consists of no real code, just a single function call. You must understand that although the flow of control in a program usually heads downwards, the 'printf' statement in the function is not going to be reached until the function called 'print_text()' is called. If the 'main()' function looked like Table B then nothing would happen. Alternatively, if the 'main()' function looked like Table C then

TABLE A

```
First function example
void print_text()
{
    printf("CU Amiga!\n");
}

main()
{
    print_text();
}
```

TABLE B

```
main()
{
    // ...
}
```

TABLE C

```
main()
{
    print_text();
    print_text();
}
```

the 'printf' function would be called twice. If in a peak of programmer madness we suddenly want function mod, we could further split our program up to provide two functions (see Table D).

Again, if

TABLE D

```
void print_cu()
{
    printf("CU");
}

void print_amiga()
{
    printf("Amiga!\n");
}

main()
{
    print_cu();
    print_amiga();
}
```

the 'main()' function didn't call these functions, they would never get called. Here are some more function facts.

- 1 The functions must be defined before the 'main()' function. If you define them after 'main()', they will not be recognised and your compiler will return error messages.
- 2 The functions have the keyword 'void' in front of

them. This is to inform the compiler that the functions are not expected to return any values. If your compiler doesn't like this, try leaving 'void' out. 3 The names chosen are purely arbitrary. I could have called the functions 'gobble' and 'pop' if I had wanted. It's usually best to give them slightly more descriptive names. 4 When you want to call a function from within your program, only the name and some round brackets are required. You don't need any other keywords.

5 The function which is called 'main()' in a program is always executed first, no matter where it appears in the program.

VARIABLE I SAY UNTO YOU...

A program without variables is like a car without petrol - it won't do a lot. Like functions, variables must be declared before they are used. You must also inform the compiler of the 'type' of the variable: in other words if it is to store integers, floating point numbers or ASCII characters.

Let's write a program which declares some variables, and then goes on to do something useful with them. In this case we'll stick to using a single 'main()' function (Table E).

TABLE E

```
Another example program using variables
main()
{
    // ...
}
```

```
int a,b,c; // declare three variables

a=10; // Set a to 10
b=3; // Set b to 3
c=b; // Set c to a divided by b
printf("a divided by b is %d\n",a/b); // print a result
```

MAGIC C WORDS

- + Plus for addition
- Minus for subtraction
- * Asterisk for multiplication
- / Slash for division
- > Greater than
- < Less than
- && AND
- || OR
- ++ Increment
- Decrement
- == Test for equality
- = assign a value

VARIABLE TYPES

Variables must all be declared before they are used in C, and also given a type. The most common types are 'int' (short for integer), 'long', 'float' and 'char' (short for character).

An integer is a number which contains no fractional parts - there are ten and only ten integers in the range 1 to 10. Integers can also be negative. Zero is also considered an integer.

Most versions of C for the Amiga will define an integer as a number in the range -32768 to 32767. This takes up 16 bits of storage for each number.

A long number is an integer with greater range - 2147483648 to 2147483649.

Each long number uses 32 bits of memory.

A floating point number is an approximation of what mathematicians like to call real numbers. In the range 1 to 10, there are an infinite number of real numbers - not only are the integers 1 to 10 present, but all the intervening fractions and irrational numbers as well. Obviously a computer cannot store an infinite range of numbers, but the floating point system works quite well by using 64 bits of storage.

A variable of type 'char' is really an integer in the range 0 to 255, as all ASCII characters lie in this range. It is also usually used to store byte-sized data.

When programming the Amiga, other data types are often defined using these primitive definitions. I'll point them out when they arise.

Right at the start of this program we declare three variables, of type 'integer'. We don't give them values when we declare them - we simply inform the compiler they exist. We could have declared the variables as in Table F.

However, using a comma to separate them achieves the same result in less space. As usual, C provides many ways of doing the same thing - we could even have defined them and given them values at the same time, for example see Table G.

However, in this case it is only when the pro-

TABLE F

```
int a;
int b;
int c;
```

TABLE G

```
int a=2;
int b=3;
int c=4;
```

gram gets started that values are assigned using the familiar equals sign. The equals sign is something that's going to cause you no end of hassle in the future, so commit to memory that a single equals sign is for assignment. In paragraphs to come, we'll discuss the double equals sign, which has an entirely different use — don't get them confused.

The third assignment, "c=a-b", is the one which actually does some work. The program has added together the values of the variables a and b, and assigned the value to variable c. The values of a and b are left unchanged.

The next line is great fun — it manages to cram lots of different useful ideas into a short space. It is simply another use of the "printf" command, but as well as that magic 'n' symbol, we've included the mysterious 'd'.

In the same way that 'n' has a special meaning (take a new line), the 'd' means 'print an integer here'. The integer will be printed appears further along the printf statement, outside the quotation marks. Again, commas are used to separate the variables. You might like to try changing the 'printf' statement to output your sums in a different format, like this for example see Table H.

TABLE H

The number 3 is the sum of the number 1 plus the number 2.

If you can manage the above, you'veussed the use of 'n' and 'd' out completely.

MATHS IS FUN!

The addition operator '+', is not alone. There is a minus — operator, a multiplication operator '*' and a division operator '/'. The last one will give interesting results when used with integer type variables, so don't be surprised by the output of this program.

An example program using variables +, -, *, /, and %.

```
int a,b,c; /* declare three variables */
a=1; /* Set a to 1 */
b=2; /* Set b to 2 */
c=a+b; /* Set c to be plus b */
printf("The sum of %d and %d is %d\n",a,b,c);
/* Print the result */
```

DECISIONS, DECISIONS

To write any sort of useful C program you need to be able to make decisions which depend on the values of variables. The simplest way to do this is with the 'if' command. Here's a short program to decide which of two variables is the greater — you should be able to work out the syntax of the 'if' command from it.

A program which makes decisions.

```
main()
{
    int a,b; /* declare and assign variables */
    a=1; b=2;
    /* First if statement */
    if (a>b) printf("A is greater than B\n");
    /* Second if statement */
    if (a<b) printf("A is less than B\n");
}
```

Notice that the condition which is checked by the 'if' statement is contained inside round brackets. Notice also that there is no explicit 'THEN-like' command. C doesn't need one — so don't put one in!

If you wanted to include more than one state-

ment to be executed after the 'if', you would mark out the code as a chunk by putting curly brackets around it, like this:

```
if (a>b)
{
    printf("A is greater than B\n");
    printf("So what are you going to do about it?\n");
}
```

The spacing is fairly arbitrary, but remember to try everything out so that it makes sense to you when you read it later. The statements within the 'chunk' must be separated by semi-colons!

BUGGED!

Our greater-than test may seem extremely short, but already we've introduced a bug. The program will not do anything when a is equal to b. Time for an equality test! The line

```
if (a==b) printf("They are equal\n");
```

will do the trick — and while I'm at it, welcome to the cultising world of the double equals sign! If you had used a single sign, like this

```
if (a=b) printf("They are equal\n");
```

The program would have still compiled OK, but it would not work as you might expect. That's your homework for next month — try some examples and find out what happens when you mix up assignment and equality checking. Is there a time when you might want to mix them up?

Meanwhile, you might want your conditions to rely on more than one variable at a time. For it is entirely possible to put a second 'if' statement

HOMEWORK

Last month we managed to get to the point of printing text on the screen, so if you find it yourself and get it working, have a pat on the back. If you remember I left you with some homework, namely to discover what purpose the 'n' served when it appears in text.

The answer can be demonstrated by this program, so type it in and find out.

```
main()
{
    printf(" Hello World!\n");
    printf(" Hello World! ");
}
```

When you run the program (after compiling it and linking it if necessary) you'll see the text appear on screen like this:

```
1 Hello World
2 Hello World
```

The '\n' symbol inserts a new-line character and if you tried to print text without it, you would see run out of space! By the way, if your C compiler was throwing strange error messages at you when you typed in last month's listings, you may need to add the line

```
#include <stdio.h>
```

at the very start of all your programs. We won't get into a discussion about why yet, so you can treat it as a bit of mumbo-jumbo that makes your programs work if you like. In reality it adds a special library of code to your program, which is needed to let the printf function with some compilers

inside the first, but you shouldn't really do this. If you truly want to check simple conditions. For example, if you wanted to print text only if a was equal to 1 and b was equal to 2, you could do it like this:

```
if (a==1)
{
    if (b==2) printf("A is one and B is two\n");
}
```

A better way is to make use of the other magic C symbol &&. The double ampersand will perform an 'AND' function.

```
if (a==1 && b==2) printf("A is one and B is two\n");
```

To achieve the equivalent with an OR, use this double bar ||

```
if (a==1 || b==2) printf("Either A is one or B is two\n");
```

See you next month. ☺

C SHORT-CUTS

C has many ways of confusing the unwary, and one of its best is with the vast array of short cuts available. Take for example the seemingly innocuous statement:

```
a=a+1;
```

Not content with this, C allows it to be shortened to:

```
a++;
```

Likewise,

```
a=a-1;
```

can be written as

```
a--;
```

This might seem a petty thing, but it exists to allow the compiler to create an optimised version for translation into machine code — since most assembly languages provide INC and DEC instructions (although interestingly the 68000 does not). This statement can also be used during assignment, for example:

```
a=10;
```

```
b=a-1;
```

Which will assign the value of 10 to b, and then decrement a to 9. If you wanted a to be changed beforehand, you would write:

```
b--=a;
```

Which would have the effect of assign 9 to both a and b.

You can also shorten a simple addition such as:

```
a=a+10;
```

```
to:
```

```
a+=10;
```

Subtraction works in the same way. Don't worry about using these shortcuts if you are not sure about them, but remember to keep a look out if you see them in any other programs.

NEXT MONTH

This is for next month — after all that you should have enough C programming ability to write some simple decision making programs of your own. Next month we'll be looking at loops, and the endless ways to do lots of work with minimal effort.

If you have any comments about this series or would like to see a specific topic covered, why not write in to John Kennedy at the usual address.



This month we have the usual crop of processor problems, memory maladies and emulator enquiries to sift through. The good news though is that Mat Broomfield is in the U.S.A. so we had to get a proper expert to answer your questions.

ACCELERATED CRASH



I have just purchased and had installed a SSL AS5000 accelerator board with 3Mb memory (see advertisement in your Amiga October issue). An excellent purchase in terms of speed, but

many games I possess will not run with the extra speed. How will I know when purchasing software whether it will crash?

Mrs. J. V. Wighman, Whitstable, Kent

Unfortunately, you won't. Firstly, I should point out that this problem is not specific to the AS5000, but will affect all accelerated Amigas (including standard Amigas which come with any processor other than the 68000 - i.e. the A3000, A4000 and A1200).

The trouble is with the game programmers. In the early years of the Amiga, Commodore produced a guide on how programs should run on the system, but many programmers just simply ignored them, following the philosophy that 'if it worked, why bother to follow the rules.

When the A3000 was launched the reason for the rules became apparent, when a lot of games software refused to work. 'Oh well', thought the programmers, 'no games players will buy a 3000 anyway'. And they were right, but nowadays more and more people have bought accelerated (or their machines, and the new A1200 comes with a 68020 processor as standard, which is going to cause a lot of problems.

It wouldn't be so bad if these games were marked as incompatible on the boxes, but more often than not they just say 'Amiga'. The good news is, if they do just say 'Amiga' on the box you can return them to the shop as being 'goods unfit for the purpose for which they were sold' and get your money back.

Hopefully games programmers will wise up and start producing games which work on all machines.

SERIOUS EMULATIONS



I have decided to buy a PC Emulator for my A500+ and I am not sure which is the best one to get. I would like to use Microsoft Excel, Corel Draw, Aldus Pagemaker and

Microsoft Word and I need my Amiga to be able to run these programs. Please could you recommend the emulator which would best suit my needs. Guy Pattison, Truro, Cornwall

There are several PC emulators on the market, most of which are capable of running the software you mention. It really comes down to getting what you pay for.

If you are planning on using these packages properly it would be worth going for a GVP hard drive with the GVP PC emulator mini-card (which can be bought separately if you already have a Series III drive).

For just messing about, the KCS emulator is available from Gordon Harwood's (0773 836781) would be more than adequate.

WHICH COMPUTER?



I am currently exploring the wonderful world of the Amiga to find a computer to suit my needs. I have narrowed the choice down to the new A500 with extra hard drive or

the extremely tempting CDTV compiler package, as I have £200 of very hard earned cash to spend. I intend to use the computer for editing and producing special effects for amateur films on video, primarily as well as using art software such as Paint IV and, of course, playing games. I would also like a CD compatible computer. My main problem is finding out how expandable the CDTV system is, and if there is any CD software available for such things as video editing, etc. I understand that the CDTV system is basically an A500+ with a built in CD machine, but I have also read that the memory required to store CD data affects the running of floppy software. I buy the A600HD, however, I will have to wait (how long?) for the A670 CD drive and then pay over £360 for the thing. There is, of course, the giant advantage of a hard drive, but is it just a question of choosing between a CD drive with memory overheads or a hard disk machine with the extra wait and expense for CD machine? Plus, will the CD drive run CD-i titles or PC-CD titles?

I would be extremely grateful if you could answer my questions and maybe tell me if I should get a different computer in the same price range and how I should expand the computer for use in video editing. S. Thompson, Salford

I'm not terribly sure why you need to have a CD drive for video editing, but you are correct to say that there are software problems with the CDTV, in that the buffers for the CD drive use up extra memory, effectively meaning that the CDTV has less than 1Mb. The solution to this is, of course, to get a CDTV with a memory expansion (Calcinis do a memory expansion for the CDTV, and also a hard drive option which may well be worth looking into).

If you are interested in doing a lot of titling, or doing it professionally, then it may be worth

getting an A1500, which are selling reasonably cheap these days and have the advantage of a video slot, which is handy for some of the more hi-tech hardware. You can use CD-Rome on the A1500 using another SCSI CD mechanism.

The CD-Drive won't run applications that have been programmed for the PC or the CD-i, just as a CD-i machine won't run PC or CDTV applications. However, because the data on PC CD-ROM disks is stored in the same format it is possible to read the data from these disks.

TALKING NEIGHBOURS



I was watching a recent edition of 'Neighbours' and I saw that they were using a program called Amiga Talk where you can talk to people through your computer by typing in messages. How much would this cost and what do you need for it?

What does the program 'Ghostwriter' do? Can you talk to the computer as in Amiga Talk? Do you know of any other programs that can do this? A. Moore, Grimsby, South Humberside

Unfortunately, I haven't seen 'Neighbours' since I left University, so I don't see that particular show. I assume that what you are asking for is a comms package, which enables you to electronically exchange data over the phone with other similarly equipped people or with a Sited In Board.

There are plenty of comms programs for the Amiga, and the good news is that the best ones are Public Domain or shareware, so they cost next to nothing. Ones to look out for are NComm, JComm and Chess, all of which are available from all good PD libraries advertising in this issue.

BIRTHDAY PRINTER



I have to choose between two colour printers for my birthday, either a Star LC-200 or a Citizen Swift 9. The shop says that I should buy the Citizen Swift, even though it is the same price as a Star, but everybody else tells me to buy a Star. Please help.

T. Western, Crewe, Cheshire

Buy a Star.

AGNUS AMNESIA



Some years ago I bought an Amiga 500, with a 1Mb Fast Agnus. However, though I do have a \$12k trackdoor-type memory expansion I do not have 1Mb of Chip memory.

Also, when I switch the additional memory off by using the switch on the memory board, my Amiga won't boot at all. It just flashes the power LED and the screen goes yellow. Is there something wrong with the chips on the main Amiga board or is it because the memory expansion is a German one?

The memory board has been examined by the importer with no success - it worked all right on their machine. If the fault is the memory board, is it possible to configure some A530s 32-bit memory off Chip memory? The revision number of my Amiga is 8A.

Pasi Arffman, Vuokatti, Finland

Okay, for a start, just because you have the

Fatter (1Mb) Agnus chip on board doesn't mean that you can automatically have 1Mb of Chip memory. The A500 was only designed to have 512k of Chip memory - it wasn't until the advent of the A500+ that 1Mb of Chip RAM became standard.

There is a way to modify your A500 to enable it to use the trapdoor expansion RAM as Chip memory. You have to make some modicellone to your A500 though. First of all turn off the machine and open the case, locate the small plastic jumper next to the trapdoor and remove it. Next get a sharp knife and warm up your soldering iron. Locate a set of three jumper pads slightly to the right of the 68000 chip and cut the connection between the two lower pads. Then solder the upper pad to ground, close your machine and switch it on. The RAM expansion should be configured as Chip RAM now. However, if the Amiga is having trouble recognizing the expansion as it is, there may be something wrong with your computer.

Check that all the pins on the trapdoor are straight and give them a bit of a clean. If you can't get the expansion to work normally there is no point in trying to make the Chip RAM modification.

You cannot configure memory on a hard drive to act as Chip memory.

MODEM MADNESS

I am thinking about buying a modem but I don't know much about them. I would like to know about the different types, prices, things that can be done with them and whether it is worth buying one. Can you please help or give me a name and address of someone who can give me more info.
Michael Farn, Coflington, North Humberlands

How curious. You are thinking about buying a modem then, but you don't know what they do? You're a marketing man, I presume.

Listen, forget about modems, I have this very nice slice of the art computer for you. It's called an Atari Falcon.

COP KILLER

I've nearly finished my own animation film called 'Cop Killer' using the brilliant coversdk program MovieSetter. It's taken 2Mb, loads of coffee and a distinct lack of sleep.

Could you please tell me how to put my animation on to its own bootable disk? I've copied the files from MovieSetter on to the blank disk as well as the animation itself but nothing seems to happen. Is there a utility that I can use or perhaps a book that can give me more info?

P.S. Could you please tell me what the Fatter Agnus and Snapper Denise chips do, and would they be worth getting?
Paul Henderson, Dublin, Ireland

The trick about making a disk bootable is to install it. An ordinary disk has nothing on its boot sector but a load of data indicating that it is an AmigaDOS disk.

On a bootable disk, however, the boot sector contains a small executable program which instructs the Amiga to start its initialization sequence.

To install a disk simply enter the Shell or

CLI by clicking on their icons and then type 'install ?' and press return. A load of garbage will appear on the next line. Now insert your disk and type 'DF0:' and press return. The disk will be installed and will now boot as a normal Workbench disk.

If you want to automatically run the program when the disk has booted it will be necessary to make a startup-sequence. First make a directory on the disk called 'a' and in it create a file called 'startup-sequence'. This file is just a list of CLI commands that are executed at startup, in your case the file could simply have one line 'Movieplayer name_of_file'. For more details see the special supplement elsewhere in this issue.

NOVICE VIRUS

I am a novice to the Amiga, so I was wondering if you could help me out with a problem. I think that my Amiga has caught a virus, because one particular disk I tried loading

produced a lot of the red and black Software Failure messages, and upon subsequently loading my Workbench I could not get access to the pull-down menus with the right mouse button. The computer works okay with other commercial software but it just my Workbench which is giving me problems. Hopefully the sort of problem nips some bells with you and you can tell me what options are available to me.
Wayne Tool, Stockport, Cheshire

A software failure in the computer's way of telling you that it has crashed. This could be due to a number of reasons, but if it is happening on your Workbench disk, and you have no other peripherals attached, then it probably means the disk is corrupt.

This could be either due to virus damage or simply a dodgy disk. Make another copy of Workbench from your original disk and install the Virus checker we gave away on the coversdk onto it. Use the checker to test your other disks too - just because they seem to work doesn't mean they aren't infected.

A1200 VS. A600

I would like to know if you could give me any information about the new Amiga A1200. All I know is that it has a 32 bit processor, can have 256,000 colours on screen, and costs around £400.

Which would be the best buy between the A600 and the A1200? I have an expanded A500 on which I use art packages, word processors, and play games. Would my A500 software be compatible with the A600 and A1200?
Darren Broughton, Street, Somerset

I assume you have now read the A1200 review as seen in last month's CU. As to which is best, well, the specifications speak for themselves. If you plan to do anything at all involving graphics then the A1200 represents a greater possibility. There are some games out on which take advantage of the increased speed and colour resolution of the new Amiga, too.

The problem really lies in compatibility. A large amount of games software will be incompatible, as will some of the existing graphics packages. We are still working on our file of

software which will work on the new AGA machines. Commodore claim that they have achieved 60% compatibility in their tests, but we seriously doubt this figure.

A-LEVEL HEADACHE

I have just started my A-Levels and consequently I have many essays to write. Obviously, I do them on my Amiga. But due to their size I am always running out of memory. This is my set up: A500 with kickstart 1.3 and Workbench 1.3.2. Power external drive, Star LC10, Datel 512k upgrade, and I use Pansol to write my essays.

I have seen the following advertised by Evesham Micros: 1.5Mb Ram board, Megaboard (both boards go in the trapdoor and also connect to the Gary chip). I was wondering how reliable this method is and is there any possibility of destroying my Amiga when installing the board? Which board is best and are there any other alternatives?

I am also considering buying a hard drive. What is your opinion of the Rodtec hard drives? What are the Ashton unbranded drives like? Are there any other drives in the same price range?
Ben Rotundo, Chalfont, Gloucestershire

To answer in reverse order. Both the Rodtec and the GVP HDs are very good drives. You also might like to consider the Dataflyer, now being distributed under the Zappo brand name. You really can't go wrong with any of these drives and even CBME's own A500 Plus is worth considering if you plan to add any additional SCSI drives later. We did run a comparative test a few issues back on hard drives, where the GVP just edged ahead of the Rodtec.

The reason I mention hard drives first is because all these drives allow you to add extra memory. This would enable you to still use your A501 expansion, which you wouldn't be able to do if you got a 1.5 expansion for the trapdoor. The difficulty with these Gary modification expansions is that the memory is not Autoconfigured in the same way as external memory is. This can lead to problems with some peripherals.

CLASSIC EXPANSION

I have an A500 with 1Mb of Ram, which I bought with the Cartoon Classics pack. I am thinking of buying an upgrade to expand to 2Mb and I've got a few questions to ask.

1. I want to buy a 2Mb upgrade that will work with the upgrade that I got with the Cartoon Classics pack and I saw the Megaboard on sale from Evesham Micros. Does this mean that the Megaboard will connect up with my upgrade to give 2MB and, if so, will it be easy to install as I'm no expert at installing chips?

2. I am very keen on animation and have got to grips with D-Paint IV and MovieSetter and I was wondering if having 2Mb of memory will make much difference to my animations. Will it mean that I will be able to make animations twice as long with the two animation packages above?

3. Also, will having 2Mb cause any problems with my computer games or doesn't it matter?
4. And lastly, what other advantages apart from animation does having 2Mb have?

Robbie Edmondstone, Jordanhill, Glasgow



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[illegible]

Cor, this is all a bit efficient numbering your questions isn't it? Okay, off we go:

1. Maybe. The MegaBoard has an expander for your original RAM expansion, but it will only fit in it if it's under about 9cm long (i.e. the original A501 won't fit).

2. More or less. Both these programs need to store images in RAM when they're animating it any degree of speed is to be attained.

3. It shouldn't make any difference. Some exceptionally old games (like, circa 1987) may have some difficulty, but generally you will have no problems. Many games are actually enhanced by having more memory.

4. More memory makes everything a lot easier, especially when using applications software.

WHAT TIME IS IT KIDS?

My Amiga has started telling me "cunsel-cunsel-cunsel" as a response to the `exitlock` command (including subclock reset). What does this mean? Is it perhaps a problem with the clock's battery? (I have an original A501, over three years old.)
Eyal Teller, Jerusalem, Israel

Why do you write in when you know the answer already? Yes, it is most likely that you have a problem with the battery. It is probably just run down, which can easily happen if you don't use your computer regularly. The best solution is to leave the machine on constantly for about 19 hours, which should charge it up enough again.

Ezra sends his regards by the way.

PD GEOGRAPHY

I have an Amiga 500+ with 1Mb and no hard drive. I have been looking around PD adverts and am trying to find a good map generator (I am interested in Geography). I have tried a few programs but they have not been compatible with my Amiga, they have either needed 1.5Mb or a hard drive. I would like a cheap but effective PD program. If you cannot help, can any readers?

Stuart Ingram, Swindon, Wiltshire

I'm not quite sure what you mean by a map generator. If you mean, as I think you do, that you want a program that will display various maps of the UK, then I don't know of one that would be suitable and run in such a limited space. If anyone does know of any software I can do this, please write in and let us know.

Other than that I can only suggest that you look at getting a hard drive. All these types of program rely on large amounts of data to create the maps from. The more data you have the more accurate the maps will be so if this is more than a passing curiosity it would be worth investing in an expansion.

KEY 880

Sometimes when I'm working with AmigaDOS and I insert a game disk (e.g. *Footbag*) it receives the message 'not a DOS disk unit 0', or 'Key 880 checksum error'. How can I remove these errors?

Tim Jacobie, Belgium

You can remove the errors, but you don't want to. The games disks you mention are exhibiting the classic symptoms of being non-AmigaDOS disks.

This means that although you can boot up from the disks when you first turn your machine on, they are not recognised as standard disks.

This is because games are often loaded in stages as you play through them. In order to store all the data in such a way that the game can access it quickly, it is more often than not arranged in a different way on the disk, the loader program being contained in the boot-sector of the disk which is run on start-up.

There is nothing wrong with your disks but you cannot run them without rebooting your machine first, with the disk in the drive. It is a good idea to turn your Amiga off and then back on again between games anyway, to protect against the spread of viruses.

MORE ABOUT SAMPLE LIST

Your explanation of OctaMED's SLIST option has solved a problem that I've been trying to come to grips with for some time. However, in order to show the new list of sample disks when I load the program, I have to go into the FILE menu and click on the 'S' directory followed by `MED_paths`. The program then asks if I want to replace the existing sample list, to which I press 'R' (or Replace). Is this really necessary? Mike Hemming, Studley, Warwickshire

Yes, I must admit that the explanation of the SLIST option wasn't very satisfactory was it? After an exhaustive two minutes of research, I can now give you the complete picture. For those readers who may not be familiar with the feature, the SLIST can be used to store a complete list of any instruments that you have available on additional disks or in various directories. These instruments can then be loaded by simply clicking on their name in the available lists.

Adding a list of instruments consists of three stages:

1. Read the instrument directory. To do this click the FILES button in the main options palette and the file requester screen will appear. From here, select the disk and directory containing the instruments that you want to add to the SLIST. When the instrument names appear, click the SLIST button in the main options palette.

2. Add the instruments to the SLIST. In the SLIST window, simply click the ADD button (below the word DR). The instrument directory should appear in white writing at the right of the SLIST screen.

3. Save the new SLIST. Now this is the stage that has been causing problems. The SLIST can be saved in two different places: the S directory of your OctaMED disk, or the current directory. The current directory is whatever directory appears when you click the FILES button, and if you've just loaded some instruments, it will be the instrument disk. The interesting thing is to use the S directory option, so insert your OctaMED disk and click S underneath the words SAVE LIST. A file called `MED_paths` has now been saved in the S directory of your OctaMED boot disk (or hard drive if you're using one).

When OctaMED loads, it will automatically look for and read the `MED_paths` files from its

boot directory. If it can't find the file there, it will search the S directory. This creates the problem that the old path list will still be read instead of the new one that you've just created. To solve this problem, all you need to do is go into the OctaMED directory and delete the unneeded path list.

If you're using the CU coverdisk, you can do this by loading it until the Workbench screen appears, then double click on the CU36 icon, scroll the window up and double click the system icon. Finally, double click the CLI icon and type

`DELETE CU36.MED_paths <return>`

CHANGING MIDI SETTINGS

I want to transmit the MIDI setup information (such as pan settings) on the very first audible note of a song or score, yet that requires three lines of information. Is there a way that the information can be transmitted (perhaps using silent or 'dummy' notes) before a song starts playing? At the moment I simply transmit the very short notes for every MIDI instrument/channel before the song starts. This means that every song is introduced by three very loud and disruptive blasts of sound.
David Bell, Sydney, Australia

Yes, there is a way that you can do this, and it takes advantage of one of OctaMED's more useful features which apply equally to both MIDI or samples. If you play a note, then send further commands before that note has finished playing and, the program will interpret those commands as it encounters them.

The easiest way to use this to your advantage, is to transmit a note using the required instrument, but with a volume of zero, you can then use subsequent lines for sending commands. For example:

C-3 10C00 — Play note C, instrument 1 with a volume of 0 (C00).

— 00E7F — Set the stereo pan completely to the right.

— 00000 — Does nothing!

C-3 10C00 — Play note C, instrument 1 at its default volume.

You can also use this to move the stereo location of an instrument while it is playing! For instance:

C-3 10C00 — Play note C, instrument 1,

default stereo location.
— 00E7F — Note C is still playing, but has been moved to the right.

— 00E3F — Note C is still playing, but has been moved to the centre.

— 00E00 — Note C is still playing, but has been moved to the left.

C-3 10C00 — Plays note C, instrument 1, stereo location to the left.

I'M COMING HOME

Mail will return next month from his usual address the Atlantic. So, keep those letters flooding in ready for his return. Hopefully, there should be one or two that are beyond even his tent, but probably be the only thing to give him a welcome to the States and find a fabulous time out of his face.

His address is: Mel Beccarfield, GSA, CU Amiga, Priority Court, 30-32 Plimpton Lane, London EC1R 3AU.

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OCTAMED PRO

READER
REVIEW

As part of a new initiative to give you, the reader, more influence over what goes into the magazine, Simon Adamson is this month's guest reader reviewer. He asks: Is the hype surrounding *OctaMed Pro* justified?

IS IT A SPREADSHEET?

Let's get one thing straight before we start: I don't regard myself as a musician. I'm not the type who took piano lessons as a kid, and I can't play God. Save the Queue on a dozen different instruments if I could, I'd probably run a mile from something like *OctaMED*, which at first sight looks more like a spreadsheet than a music program. Coming from a background of programming various utilities, this didn't bother me. In fact, it made a lot more sense to me than the professional sequencers I'd used!

Anyway, for those who didn't pick it up when Version 3 was given away free on the July issue of CU Amiga, *OctaMed Pro* is an update of *MED*, which itself stems from the Soundtracker family. The main difference with *OctaMed* is that it can play eight channels of samples simultaneously. This is quite a feat as the Amiga only has four sound channels. The price you pay is a drop in sound quality, but more on that later.

IN THE MIX

Since version 1, *OctaMED* has combined sampling and sequencing in one program. The advantage of this is that you can grab and edit new sounds while you're in the middle of writing a tune. With previous versions of the program, you could mix samples together, boost or filter the filter, add echoes and reverse the sound. Now you've got control over the degree of treble boost and filter, finer definition of echoes, and you can even edit samples free-hand by drawing a new waveform in the sample window.

If you want a more conventional display you can click on the stove gadget, this shows selected tracks as music notation. Although it doesn't show things like effects commands, it does allow you to

enter sheet music by picking up notes from the palette at the bottom of the screen and putting them onto the stove.

GET THE BALANCE RIGHT

You can use *OctaMED* in four, five, six, seven or eight channel mode. The standard four channel mode gives you plenty of control over the tempo of your track, the relative volumes of each sample, and it also offers the best sound quality. Unfortunately there's a heavy price to pay for using extra tracks. First, all the samples are converted from 5-bit to 4-bit. Now the playback volume of each sample is set to maximum and can't be altered from within the song. This makes it very difficult to get the levels right. Finally, the tempo control is reduced to what is in effect a fast/slow control. This doesn't matter so much for synth type instrumental tracks, but it makes sequencing drum loops rather tricky. It would be impossible, but for the use 'tune' function. This lets you fine tune the playback rate of any sample, pulling loops into time and tuning instrument samples.

The main problem with using eight channels is the drastic loss of sound quality. It's a real voice able to sounds with a lot of treble, such as cymbals and drums, which are reduced to coarse, grainy shadows of their former selves. You can get a bit of treble response back with the HQ (high quality) gadget, available on Amigas with a 68020 or higher processor, but it's still nowhere near as clear as four channel mode. It's a shame really because it rules out any possibility of using it for professional music production.

To be fair, the sound degradation isn't that obvious if you use the right sounds. Sampled synth sounds and synthetic drums don't lose much

and you can include all those little rhythmic, sub-melodies and background effects that just weren't possible with four channels.

If you've got a MIDI keyboard or drum machine, you can sequence them alongside your samples. Each block can be extended to 16 tracks, all of which can be used for recording and playing MIDI sounds. For me, it's the MIDI support that puts it ahead and shoulders above the other trackers. It is possible to record live from your MIDI instrument, but the fairly low resolution and slow reaction time from the computer means that it's best used as a step-time editor for anything other than very simple parts.

OctaMed Pro is a pretty tasty program, even if you never use the eight channel sample mode. I'd recommend it to anyone who uses a tracker and wants a bit more power, as well as beginners who want to have a go at making their own music.

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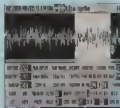
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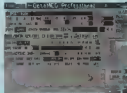
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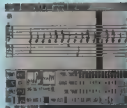
OctaMed is one of the few programs that lets you use up to eight samples simultaneously. There is a price to pay however, and sound quality is lowered.



The sampler lets you grab new sounds at any time, and the updated editing features give you even more control over the effects.



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BACKCHAT

Reading writes and writing wrongs, the letters pages are your forum for voicing opinions on the Amiga world. This month's pickings from the postbag have been selected by Steve Prizeman.

TAX DISKS?

I am writing in response to the letter from Carmen Brulez in the November issue of CU Amiga. At the end of the year, you asked us, your loyal readers, for our views concerning a possible tax on blank disks.

I personally believe that such a tax is a bad idea and certainly wouldn't stop the pirates from copying games at all. Rather than spend £35 or so on a full (originally) commercial product, they would still buy blank disks (even if they cost a little bit more after taxation) and copy stuff regardless, because it is much cheaper. And once again the pirates selfish greed ensures that everybody else suffers.

What about all those honest users who regularly buy blank disks because they genuinely need them for purposes other than copying soft ware? I am talking about such people as the graphic artist, music maker and avid public domain (PD) swapper. And am I the only wordprocessor user who owns several disks full of files AND backs them up as well? I think not! So you see, it is people like us who, because we use numerous blank disks, will lose out with such a tax.

On a wider scale, PD companies, most 16-bit magazines, and even commercial software houses themselves regularly need to purchase blank disks (elbels in bulk). How will they all cope with such a tax? Will this mean that prices may have to be raised yet again as compensation so that these companies stay in profit? I could see it being done.

I would like to hear what views the magazines, software developers, and even the pirates have on this subject, which is likely to take up much of the letters pages in future issues of CU Amiga.

Stuart N. Hardy, Sheffield.

With regard to your last point, Stuart, I think you may well be right: software piracy is a subject mentioned in many of the letters to Backchat. On the subject of pirates, I think I can see the Jolly Roger coming into view this very moment...

CRACKED

The great piracy debate rages on and I feel like I need to stick my own in, as it were. In my area (up north), piracy is alive and well, but not for long, I think.

We know venous 'crackers', as we call them, but they don't supply us in the main. We get most of our games from software shops. I know several people who work in chain stores and copy hundreds of games every hour, crack them, and then distribute them freely. When I say we, I mean probably around 40. We keep these games amongst ourselves and if any outsiders who are well known to us pop up we sell them games. Last week, for example, I sold Penza Kick Boxing (very old) for no less than £7.

However, piracy will soon be dead. The thing has gone now it's too easy to break the so-called law. So now we buy games. We have the joy of looking at huge colourful boxes and instructions, yes Instructions—a pirate's nightmare. No instructions, no games in many cases. I have

begun to sell off my disks cheaply to youngsters as I have too many to keep tidy. You may be wondering how long I've had my Amiga to get so many disks. The answer is not long. I started collecting, copying, selling, etc. long before I obtained an Amiga and found it profitable. Andy Onymus.

Will these people never get the point? Piracy is illegal. I'm not going to go through all the old arguments about the rights and wrongs of it, I'm sure that you've heard them all before.

The point about Instructions is well taken, but the various prayer wheels, trivial pursuit sessions, and Masonic handshakes required to get many games started are clearly still being over-ridden by crackers. For games with a complex set of controls (strategy games and flight sims, for example) it would be naive to suppose reams of photocopies aren't produced as well.

MAJOR MISTAKES

I was impressed by the new A1200, which I read about recently, it certainly seems to be a superb machine but I can see Commodore being turned (once again) into the villain of the piece.

Its marketing strategy hasn't been brilliant, it must be said. The A500+ was plagued with incompatibility problems, was humbly phased out (almost overnight) by the A600, and then, out of the blue, this machine's price was slashed by £100. Now, to top it all, the A1200 arrives! If it lives up to its growing reputation as a mega-machine, and if the price is really going to be only £399, I can see this putting the A600 under threat.

Just what must the up-and-coming computer enthusiasts do? There are so many machines that they'll have a difficult job knowing which one to choose! Even the existing micro-users are unlikely to trust Commodore any more because, judging by its latest policies, it'll only be a matter of time before yet another, improved, machine is launched. I'm all for progress if it is for the better, but releasing new machines so regularly is surely a bad idea. I just cannot see the point of promoting the A600 Christmas bundles with one breath and then introducing the new A1200 with the next. Commodore isn't living in fear of the latest Atari machine the Falcon is it? S. Hardy, S. Yorks.

As you'll have seen by now, Stuart, the A1200 was profiled in our December issue. At the time of writing the extent to which existing software will be compatible with Commodore's new baby remains unclear.

Commodore estimates that around 60% of existing software will run on the A1200 and A4000 (although not necessarily the same 60%). To be (slightly) more specific, around 35% of current software is expected to run straight off on the new machines, with a further 25% running once the cache memory is disabled. Professional and applications

SAD EDITOR FAILS TO BRIBE READERS

I am writing in response to Dan Singaby's Editorial in the October issue of CU Amiga. I believe that it is imperative that the publisher give Dan a raise based on all the hard work he has done for the magazine.

But, if that is not enough of a reason, please do it so that I may receive a crate of Budweiser (I don't mind American or the 'real stuff') that Dan promised. This is extremely important as it will help maintain the yin-yang balance in my life (i.e. at the moment I have spent too long sober and need balancing out). Plus, if I get the drink he won't and will therefore be able to work soberly for that much longer. (P.S. I am well over the age of 18.) S. Mahon, Cardiff.

For those of you a little puzzled by this letter, cast your minds back to October 1992. In that issue Dan wrote, in his Editorial, a request to all our readers to write in to the publisher to tell him how great Dan is and how much he deserves a pay rise. He even offered a crate of Budweiser to the best letter.

Well, it's now three months later and this is the only letter that we have received. Out of over 100,000 readers only one could be bothered to write in! And that's with the incentive of a crate of Bud, as well. What does this show about Dan? Perhaps he's just such a poor Editor and sad man that no one cares about him. Perhaps no one reads the Editorials. Or perhaps everyone thinks Bud is a lousy beer.

We've tried to convince Dan that it is one of the letter explanations, and so far he's gone for it. But, having worked side by side with him for some time now, I'm inclined to go for the sad option...[and I let them write this drivel]—Ed.]

software should prove more compatible than games; and I'll be probably be okay, on the whole, whereas older ones are considered somewhat of a lottery Commodore has made it clear, however, that it regards the onus for establishing software compatibility as lying principally with the software houses.

Commodore shouldn't be criticised for updating their machines — after all, the adage 'To stand still is to move backwards' in particular fits when applied to computing. I agree, however, that the rapidity of new releases and their apparently arbitrary pricing can only cause consternation amongst many Amiga users, especially the new ones. Add software incompatibility to this and you're just left with a mess. Some people are getting angry...

CUSTOMERS RIGHTS?

As the saying goes, 'The customer is always right'. Well I wish Commodore would sit up and listen. I have owned an Amiga 500 for about five years now and have been very happy with it, but I am now looking to upgrade to a newer model. The question I need answering is which model?

The Amiga 500 has been the basic model for a few years and Commodore has supported it well and will probably do so for a while yet, but over the last couple of years there have been the A500+, the A600, and also (trying not to forget it) the CDTV. Many people rushed out to buy these machines, but what about the people who bought an A500+ only to find the A600 series not far behind? I bet they don't think it was funny after wasting FOUR HUNDRED POUNDS on a line which was soon to be discontinued. Similarly, with the A600 a lot of people spent £400 only to find that the price was to be cut by £100 shortly after.

Maybe you think that I am being hard on Commodore, but I am not the only one who believes that we are being ripped off. I have lost my faith in Commodore. How do I know that if I buy a CDTV there won't be a new one around the corner — which is what a lot of rumours are suggesting. So does this mean that the old CDTV will become discontinued (another waste of money)? When the A4000 came out, with its 256,000 colours on screen I know that there would be another computer not far behind it — yes I am talking about the A1200. I am quite sure that this computer will eventually take over from the A500. I mean who wants a computer with, say 32 colours on screen when you could have 256,000 — which in turn is what software developers have been asking for. So

a lot of developers will start producing software on the A1200 instead of the A600 because of its better capabilities. I know that the A1200 will be sold because our local Dixons has already sold out. I am tempted to buy an A1200, but I am worried that Commodore will then release a better computer not long after. I know that it is impossible to always own the best, as new technology becomes available every day. Firms have to take notice of what their competitors are doing, so they don't get left behind in the race to reach the top, but Commodore is going too far by releasing computer after computer.

It's time that Commodore listened to its customers, as we are the ones keeping it in business and treated with the respect we deserve by not ripping us off. Commodore needs to restore our faith by releasing a computer and sticking by it for a while like it did with the A500. Maybe then, and only then, will we trust Commodore and support it. Garry Abel, Humberston, South Humberside.

SOME MISTAKE?

In November issue of GU Amiga you said that the Commodore A1200 did not exist. So why are Dixons selling it?

I am the first to spot it is here a price on offer?

Mr. P. Lisse, North Wieland, Lincolns.

To answer the second question first — no. And, as for the first question, statement, if you had read your issue correctly Mr. Lisse, you would have seen a news item on page 10 stating that the A1200 was due for release shortly.

MARKET PLACE HERO

My opinion on the debate on the future of the Amiga is that I will remain Europe's largest home-use computer for a long while yet. There are just so many good games for it, and much more to come for anyone to kiss a goodbye. If you want a console it will be a real shame to lose your Amiga for it. I've got a Megadrive and a Famicom but will always keep my Amiga to play *Populous 2* and *Grand Prix*.

The important thing for any computer to do is to find its niche in the market. The Spectrum is still selling and being used as it's a great machine — I regret giving mine away. It has found its place in the market, as has the Atari ST with its serious/enthusiast user-base. The Amiga is in a pigeon hole that it will succeed with consoles, against which it competes very well. The only computer that surpasses the Amiga is a high-end PC costing a lot more. PCs

CONSPIRACY THEORY NUMBER 297B

No longer can my finger be withheld. Too long have I callously over-generous games made ignored the practice of games being deliberately engineered to have a pre-set life span. I am not talking about difficulty and number of levels, or stall settings, although these factors are often made redundant by programming come and go-ups. Let me elucidate.

In those gone by I have witnessed letters in games made during the lack of saveable high score tables and, therefore, the lack of incentive for continued and worthwhile play. However, today the whole affair has been swept under the rug by major ignoring the issue and games developers, underhandedly undermining the whole concept of playing for scores. 'How?' you may ask. Simple. Most releases nowadays do not even have a score table, thereby diminishing at a stroke the whole issue and showing contempt for 'gamers' who in the past have asked, very nicely, for reversible scores, and who have repeatedly been ignored.

The lack of score tables is just a part of a larger conspiracy to rob games players of long term satisfaction: other tactics are not enthralling games to loop around when finished, making high score play pointless, not having enough digits in the score area, sometimes even resetting score during play due to lack of valid digits, creating score tables that are almost unobtainable, giving the player little opportunity to view the score table by making it appear for only seconds or hiding it behind 10 minutes of credits, and also not displaying the top scores on screen whilst the game is in progress.

A great needs all these features to truly be a worthwhile purchase. In fact, Japanese console games usually have all these features, but, of course, no saveable scores. Megadrive games in particular suffer from being too easy and lacking in the continual play stakes, a problem that could be cured by saving battery back-ups to store positions and scores. This will never happen because developers do not want many people getting long product satisfaction and perhaps not buying so many expensive games.

I would love to purchase a console or handheld, but I never will while the above situation remains. Okay, this may not concern many head-winded punters, but many wise people share my view. It is 1993, and still cannot play decent games how they should be played — for scores. I cannot even use a £80 Datacops play cartridge to freeze games and save scores that way, because developers program in routines stopping cartridge use. Now seeing that this cart will only copy single file games, and considering all commercial software is utilised, and considering that the cart's disk weather can break in and change credits, credits, etc, but cannot locate deliberately hidden score tables. It's plainly obvious the programmers do not want many people playing for and saving scores. I mean, why hide only the score table? Some games even have an on-screen score counter which is of no use at all to the poor misled punter because the very second the first line is lost the score vanishes, never to be seen again. As no score tables or even a high score bar exists the player cannot even write down the score as he has no way of knowing what his score was. This phenomenon is too common to be an honest programming mistake. Finally, what about games that allow player positions to be saved, but not scores. Why not? Even saving scores to a blank disk (no virus problems) is virtually unheard of.

I find this an appalling situation in an industry that gets away with customer contempt like no other. Would Ford sell cars with no accelerator to stop drivers reaching high speeds?

My reason for writing is to put across this plea. The points I raise would be relatively simple for programmers to implement whilst developing their games, as they make sure it cannot be done by people like me once a game is finished and on the shelves. If it's plain to be said as, then programmers hear this, don't get it and don't expect me or others to fund your unrealistic and doomed industry any more.

One last comment. I would pay up to £40 for an Amiga version of *Parasol* being consisting all the features I mentioned, as I would then get value for money, unlike the version currently available. To all concerned, please take note when chickadee complaining about piracy, etc, price is not always to blame.

Mr M.A. Andrews, Manchester.

This is a real letter, indeed, isn't it? Surely the point about playing a game is that you play it for the challenge. Having a high score is secondary to this. Mr Andrews must be very sad indeed if he craves attention so badly he needs to see his name up in lights on a high score table. As for the comment about Ford and accelerators, you're missing the point there too. The absence of a high score table does not stop you achieving one nor getting 'further' in the game than ever before. What a maroon!

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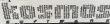
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don't have clever graphics or sound chips but rely on the fast processor clock speed to do those fancy functions without slowing down

CDTV is an expensive failure, while CD storage is exciting. Commodore (if it is to survive) would need to develop a PC (bearing the Amiga name) with Amiga custom hardware and graphics/sound chips and a combination of floppy, hard and CD storage. It's up to Commodore (and Atari) to produce the next big home computer, or they will lose out to the consoles.

The only other possible future for the Amiga is with the programmers of games that are more than just platform and shoot 'em ups - leave those to the consoles and bring us more of Microprose, EA and Bullfrog. Lawrence Sandersen, Crayford, Kent.

DOWN UNDER

I own an Amiga 500+ and I think it's a great all round machine, but I've got to admit it doesn't come close to a 486 S-VGA PC (which is fickerin' hagen to add).

The Amiga's sound is great and rivals even the best souped-up 486 with a sound card but that's where it ends. The Amiga's 32/64 on-screen colours do seem rubbish compared to the whopping 256 of the PC. So what if I haven't HAM - I've never seen a commercial game taking advantage of it, have you?

Now let's take a look at the Amiga's CPU. The 68000 running at 7.14 MHz - wow! Compare this to a 486 racing along at anything from

about 33 MHz to 50 MHz - which makes the 68000 look like a Lada with its brakes on, even the Amiga 3000 seems a bit slow.

Commodore had better get its act together and quick. Hey Commodore, why don't you get your backside off the chair (leave it to the consumer for once), and do something about our dying machine? It seems that the Amiga is about to become obsolete and is three quarters of the way to Silicon Heaven. The Amiga could easily make it to the top once again but it's going to be hard work for Commodore and I wouldn't like to be in their shoes if the PC makes it to the finishing line first.

James Wilson, Adelaide, Australia

I think obtuseness for the Amiga is far too premature, James -

'Rumours of its death have been greatly exaggerated' (to paraphrase Mark Twain). Bear in mind a warning Lawrence Sandersen (see above) added to the end of his letter:

'Don't let people tell you the Amiga is dead - ever heard of self-fulfilling prophecies? These people come from America where the Amiga is an uncommon machine losing out to PCs and Apple Macs.'

Evidently they can be found in Australia as well. Not everyone is impressed by PCs, however...

GREEN WITH ENVY

The reason I am writing is the increasing number of letters you are

CREDIT WHERE IT'S DUE

After reading the November edition of your (excellent) magazine, and the write-up on the CDTV demo collection, I thought I'd get in touch with Almathira.

I phoned on a Monday afternoon, about three o'clock, to see if the price of £19.95 included postage and packing. Not only did it, but they took my name and address and promised to send me the above-mentioned disk and the Free Fish PD disk as well. Amazingly, Almathira wanted no money, but instead asked me to send a cheque when I received the goods. Even more astounding was the arrival of the disks the very next day.

I would like to thank Almathira not only for its super-quick service, but also for the trust it puts in its customers.

P.S. The disks are excellent as well.

Mr A. M. Miller, Mestock, Derbyshire.

CREDIT DUE, TWO

I would just like to tell readers what a great service 17-Bit Software give. I send my orders on Monday and receive my disks on Wednesday. With my orders I usually send some questions, every single one of which gets answered. Also, on the catalogue disks, unlike many other PD libraries you shall remain, it says whether or not the disk is worth buying (unlike the 'nameless ones' who recommend every disk in their libraries just so you'll buy them). Long live 17-Bit!

Stuart Sadler, Haverhill, Yorkshire.

Here at CJ we occasionally receive complaints about firms which give poor service, so it's great to hear of companies going out of their way to help customers. It's equally pleasing to know those customers are prepared to take the trouble to thank people who do a good job for them. A little effort, a little gratitude - see, the world's a better place already!

receiving about the so-called PC threat. I have three friends who own Amiga two with 386s and one with a 486. All of us consider games to be our main use of our computers.

I invited the guys with 386s over to my house and showed them the following games: Monkey 2, Project X, Lotus 1 and 2, the demo of Zaxxon, a few top demos and another bunch of cool games. Two hours of constant playing later and already their faces were green with envy. They couldn't believe that Monkey 2 was running in just 32 colours. Needless to say Lotus 2 and Project X left them speechless, and almost at the point of passing out. They felt like they just poured £2,000 down the toilet!

To come to my point. The day that you can obtain software of this calibre on a cheap PC (i.e. around £800) will be the day I know away my Amiga and buy a PC. NOT! By that time we would probably be playing with the latest Amiga 10000 with 200 Mb disks, plus CD-ROM, plus 64 bit ultra true colour and resolutions too high for the eye etc. etc. Jack Sukker, Arnhem, Jordan.

SAD AD

I have just seen the new advert that Commodore are running as part of the Christmas campaign. What a dis-appointing!

The guy in the advert makes Amiga-users look like a bunch of boring dorks (check out his jocular technique). I hate to say it, but the Nintendo and Sega adverts are much

more interesting and eye-catching.

All I can say is at least Alan Hewitt produced a better advert. We want an advert worthy of the Amiga. Kirsten Gillespie, Glasgow.

Personally, I don't think that it's too bad. It's hard to convey all the elements that an Amiga is capable of handling.

BEAT THAT

I am a fan of Gamesmaster on Channel 4. I was wondering whether there are any plans for a computer game based on the TV series. Players could take the part of Dominik Diamond as he presents the show. It could be an adventure game where Diamond has to get from one end of the show to another without making a mistake. He would have to face loads of kids and beat them all up, and stop all those game jounos from spouting a load of rubbish! D. Diamond, London.

What a Joker.

If you have any views concerning the Amiga which you would like to share with CU and its readers, write to
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INSENSIBLE SOCCER

Firstly, congratulations on what I consider to be a superior magazine. I have been buying CU Amiga for nearly two years, and am pleased to say that the changes you have made to it have thus far been for the better. Well done - you can count on my support in the future.

Now to my reason for writing. I recently purchased Sensible Soccer, and must say it is a superb game which I really do enjoy playing. What I would like to know, however, is why can't I beat every single team except one? The team to which I refer is England. Now, as far as I can see, all other teams appear to be judged about right, i.e. when I play Malta or another nation not renowned for football I win comfortably. Likewise when I play Germany I rarely win. This is understandable since Germany are, to all intents and purposes, world champions.

If the performances of teams were based on recent events and games, then surely England would not be that good as they have been far from successful lately. Were England made one of the toughest teams purposely, or is it just me? I am willing to accept the latter as I am not that good at the game, but it does seem strange that Sensible seems to be a little biased. I would be interested to hear any comments you have on the subject.

Michael J. Pope, Newport, Gwent.

Sick as a parrot to hear any suggestion of improper intervention from the touchline. I spoke to Renegade, the publishers of Sensible Soccer. They explained that although England is one of the toughest teams in Sensible there are others with potentially equal ability. Your strategy and positioning of star players are major factors in determining success or failure. The Renegade team, I feel, have themselves, point out that soccer has more to do with emotion than cold analysis - it's a funny old game, and there are no absolutes when trying to predict results.

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Established over two years ago by several Amiga users dissatisfied with the lack of after sales support for their leonine machine (is that a uniquely Gibraltarian problem, I wonder...?), the club has developed a useful range of services for its members. Evolving from monthly meetings at which Amiga news and know-how was exchanged, the club now provides a PD library of more than 650 disks, a collection of Amiga related books and videos, hardware (such as a sound sampler) which may be borrowed, monthly newsletters, magazine disks, tutorials on AmigaDOS, AMOS, etc. special offers on Amiga accessories, and help with, for example, Amiga repairs.

The Gibraltar Amiga Users Club continues to hold monthly meetings at the John Macintosh Hall, which feature talks, games competitions, and software demonstrations. The public are welcome to attend these meetings and details of them may be obtained from the club's chairman.

One major event is held on a yearly basis by the club - the Annual Gibraltar Amiga Exhibition, a three-day show featuring varied exhibits relating to the Amiga, with contributions being made by both hard and software companies around the globe. It is, in fact, the only Amiga exhibition in the south of Spain. The event also includes two games competitions and an art and animation competition. The next show will not take place for at least five months, but certainly sounds worth waiting for if you're a local Amiga fan.

The club is able to cater for English-speaking Amiga users as well as Spanish-speaking ones. Annual membership costs £9 for adults and £6 for students, although there is no charge for people living outside Gibraltar who wish to contact the club to buy or exchange PD software, or establish contacts with Amiga-using pen-friends.

HEREFORD AMIGA GROUP ALMER COTTAGE, ALLENSMORE, HEREFORD HR2 9AT.

For those of you who strive to get in touch with this club, featured in the October edition of CU, please note the corrected postcode above - and don't jump to conclusions. It wasn't out there! It was the first time I saw from the Hereford Amiga Group (HAG) is its booklet, 'Cheaters Guide to Amiga Games', which features more than 320 cheats for many popular games. It is available to you supporting with a full code type (with stocks) for £3.95 exclusively from the HAG, although the club is seeking other outlets.

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P.O. BOX 1309, LONDON, SE 2UT.
TELEPHONE: 041 346 0050.

In existence for 14 years, the ICPUG is a well-established organization whose most visible presence is its well-produced newsletter. With almost 100 pages per issue, the bimonthly magazines provide information on the C64 and PCs as well as the Amiga. Features on CDTV and hardwiring articles such as 'The Day My Hard Disk Crashed', extensive coverage of programming and applications, reviews of hard and software, news, and readers letters are all included.

Though not a club in the way that most groups featured on these pages are, many of ICPUG's

widespread members have formed local clubs which meet and discuss their computers in the usual fashion. An extensive PD library is available to members, numbering 1,100 disks for the Amiga alone.

A special end of year subscription offer may still be snapped-up if you're quick: the September/October issue (containing the articles mentioned above) and the November/December edition are available for £7. A full year's membership (including subscription to the newsletter), to begin in 1993, will cost £21 for UK residents, £25 for those of you elsewhere in Europe, and £35 for anyone outside Europe. All enquiries regarding membership of ICPUG should be directed to the Membership Secretary, Jack Cohen, at the above address.

MEGAMIGAMANIACS

P.O. BOX 3721A, CHEMEPT 7442,
CRPE TOWN, REPUBLIC OF SOUTH
AFRICA.

With a membership about 30 strong, this South African club deals with a wide variety of subjects interesting to the Amiga buff from DTPI to Assembly programming (Devpack and MasterSak), informal discussions and demo competitions are held regularly, and a monthly disk magazine is distributed to the members.

Access to Intergraph's digitizers and laser printers can be arranged at the group's Cape Town club house, for only nominal fee. PD disks (Fried Fish) are also available. The knowledgeable members include several who have designed and built their own hard drive interfaces and memory expansion boards.

New members, from anywhere in the world, are welcome. No membership fee is required, only the cost of receiving the disk mag. For further details contact the club president, Nick Oliver.

NUMERO UNO

DICKSON, 21 BURSTALL HILL,
BIRMINGHAM, NORTH NUMBERS
Y016 RNP.

Covering all parts of Great Britain, this is a small group which strives to be a bimonthly newsletter to members (the membership fee is £3.60 per annum). It is currently establishing a PD service for members which will cost £1 a time (to cover copying, postage, and packing expenses) as well as the provision of a disk by the member. If we are not interested in making money, just having fun, they say. Any profits go to the club funds, saving up for a new printer, ribbon, and so on.

To get further details you don't even have to send them an SAE - they'll settle for a first class stamp on its own. If you want to swap PD with the club, please note they made a special point of mentioning that they aren't interested in hard-core or midlist!!

SOFTSWAP-CDTV

17N LLOIART, GLANDWE, BARNMOUTH,
GWYNEDD LL21 1TQ. TELEPHONE:
0341 281160.

Boldly going where few have gone before is the club geared towards the CDTV. Not only does this group provide advice about the often neglected machine, but, as its name suggests, Softswap provides a swapping service for CDTV CDs.

A fee of £5 per swap is charged, most of the money raised being re-invested in the club by purchasing new CDs and funding a newsletter planned for the near future - a printer needs to

be purchased before that will be up and running. CDs are posted recorded delivery, so swappers should be able to rest assured that everything sent out will arrive. There are no cons: hidden costs, or membership lists, I am assured. The titles available include *Falcon* and *Trivial Pursuit*, the latter a large and enjoyable version of everyone's favourite quiz game - which comes over very well on the CDTV format.

For advice, or to send a swap, speak to Chris, the club organizer, on the phone number given earlier. Please note that Chris doesn't want games or money to be sent to him without a swap being arranged first.

YOUR AMIGA CLUB (YAC)

THE OLD CHAPEL, CHURCH ROAD,
CATSFIELD, BATTLE, SURREY TN33 9DP.

With a membership of 45 (or 90 if you include people covered by family memberships), this club, located in the Hastings area, offers a wide variety of services. Members receive a disk-based magazine, issued every two months, containing articles, pictures, games, cheats, and, usually, PD utilities. A PD library stocks more than 1,000 disks, sold to members for 75p each, and for which an on-disk catalogue is available. Tutorial classes on AMOS, CLI, AmigaBASIC, wordprocessing, databases, spreadsheets and art packages are organised by the group periodically, and helpines provide advice on Amiga problems. YAC has links with MAD, an organisation that provides discounts on computer products, through which it obtains hardware and software at prices below some of the best deals advertised elsewhere.

Venues vary for the club's monthly social evenings: although the games room of the Whitehorse pub (Priory Road, Hastings) is its regular setting. Annual membership costs £10 for individuals and £12 for families. Details of the club may be obtained from the above address.

CALLING ALL GEORDIES!

Club Call has received a number of enquiries from readers in the Tyne and Wear area requesting information about clubs in their neck of the woods. If you run an Amiga club in the north-east, don't hide your light under a bushel, let us know what you're up to. Ho-hey the lads!

GET IN TOUCH!

IF YOU WANT TO LEAD YOUR
AMIGA-ORIENTATED ASSOCIATION
INTO CLUB COUNTRY, SEND ITS
DETAILS TO: STEVE PRIZEMAN,
CLUB CALL, CU AMIGA, PRIORY
COURT, 3D-32 FARRINGTON LANE,
LONDON EC1R 3AU.

IF YOU WRITE TO ANY OF THE
GROUPS FEATURED IN CLUB CALL,
AND REQUIRE A REPLY, PLEASE
HELP THEM CUT COSTS BY ENLOS-
ING A STAMPED SELF-ADDRESSED
ENVELOPE [OR AN INTERNATIONAL
REPLY COUPON IF CONTACTING
OVERSEAS CLUBS].

It's a small world - especially when you have a modem to help you talk to thousands of Amiga owners the world over. John Armitage finds that if you've always wanted to be a radio HAM but don't know any Morse Code, this is the next best thing.

COMMS

GETTING

AMAZING WORLD

Comms is an amazing thing, and one of the most amazing things about it is that more people don't make use of it. A quick flick through CU Amiga demonstrates that a decent modem can now be bought for about £80 - not much more than an external floppy disk drive.

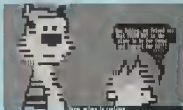
The benefits of connecting your computer to the telephone network are too numerous to mention and if you are still not convinced that you should at least give comms a go, ask someone who has tried it and you will be.

I know that when I first started logging on to Bulletin Boards one of the main worries was about getting a huge telephone bill for my trouble. I soon discovered that by using a computer to do all the talking, it was actually cheaper to keep track of the time I spent lining Jan Valence's packet. Most comms software will keep an accurate record of the time your computer spends on line, so with a bit of self-discipline you won't be facing disconnection.

Most Bulletin Board Systems (BBSs) are free which means your only expense is the telephone bill. Some larger systems, for example GDX - looked at in the November issue - charge for their services. Don't worry about accidentally incurring a bill when logging onto a system for the first time as you'll be warned long in advance. You'll also be asked to give your credit card details, which is a bit of a giveaway that something expensive is about to happen.

This month I have logged onto a local BBS for a look at what's available. At least, the board is local if you live in Northern Ireland. There aren't many boards in this part of the world, and those there are

rarely get a mention - hopefully this mention will start to even things out. Remember that calling Belfast is just like calling any other large UK city - it doesn't necessarily cost the same as dialling America. Also note that the current BT special offer means that if you call on Sunday evening it costs the same as dialling your mate's house next door. I discovered that this local board gets calls from as far away as Hong Kong and New Zealand - the reason being that it is a very good board.



The first screen you'll see when you log onto Yukon Ho! (Hobbes is the one on the left, Calvin on the right)

YUKON HO!

This Calvin and Hobbes' influenced board has been run by sysop Mark Kerr for three years and is currently running on an 25MHz 386 PC with a 660Mb hard drive. Although originally Amiga-based, the board was moved over to a PC simply to run the best bulletin board software available at the time. From the user's point of view, the choice of host system is irrelevant - it's ease of use and facilities that count.

Six hundred users can't be wrong, and that's how many log in regularly to this system. About 50% of them are PC owners, 40% Amiga owners and the rest Mac and ST owners. Apparently, the Amiga owners are amongst the worst offenders in the upload/download ratios, so let's try to get ourselves a better reputation, ok?

JUST THE FACTS, MA'AM

Yukon Ho! BBSBelfast: N. Ireland, telephone 0232 766163

Time: 24 hours a day

MODEM: All speeds from 1200/75 to MNP levels HST

ANSI graphics supported

Large Amiga file section

Part of the Fidonet system

YUKON HO

Official Sysop: Title For 1/5/89/94 Prods to
David Nelson in Belfast

ON BOARD

PD FOR FREE

One of the most common reasons for logging onto a BBS is to get hold of PD software, and Yukon Hot has almost 30Mb of Amiga specific files just waiting for your modem to access. There are hundreds of sound modules and even more picture files, so many in fact that they have to be sorted into categories. For example in the Personality section you'll find high quality pictures of everyone from the sysop to Judy Gerland.

The Amiga file section is well used, and contains a very up-to-date selection of files. It's worth logging on just to see what software is available, and it is also a heck of a lot quicker than posting a cheque off to a library.

When Mark the sysop gets his CD-ROM system up and running, he'll have many more files available for downloading. If enough Amiga owners ask he'll be only too happy to get some Amiga specific disks. I can't help but think that Athemeta System's PD disk is going to be hot property amongst sysops.

LOGGING ON

At your first session, you'll be asked the usual barrage of questions – name, telephone number, what computer you are using, your chosen password and so on. You'll then be granted immediate access to the board and file areas, although you will be given a 30 minute time limit to start with.

Your personal security rating can be improved by acting as a responsible citizen – the more you participate, the more you will be able to do.

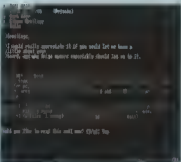
Finding your way around the board is simply a matter of picking options from a menu, and you'll feel at home very quickly. Remember that the BBS host system must work with as many computers as possible, so don't expect any fancy Amiga style intuition gadgets or menus. Nevertheless, with any halfway decent comms software you can enjoy the colour screens and pictures provided by the ANSI standard.

GLOBAL LINKING

If you want to know how to talk to people on the other side of the world for next to nothing, the answer is to use a BBS. Yukon Hot is part of the vast Fidonet system, which consists of thousands of BBS's all networked to pass messages

between themselves. Late at night, the boards start talking and will pass on any messages between themselves. Hopefully you'll soon be able to find a CU Amiga conference, so you'll be able to pass your messages directly to the staff of your favourite magazine for only a local call to your own nearest BBS.

Yukon Hot is run as a hobby, not a business. Making use of its facilities is entirely free, and will remain so if Mark gets his way. Of course, donations are always welcome, so if you have any spare cash, computer hardware or software lying around doing nothing, it will be made good use of at Yukon Hot. The BBS also doubles as a traditional PD/shareware library – if you want some software you are more than welcome to send disks and return postage instead of downloading a file.



The main facilities of Yukon Hot are particularly easy to use. Soon you'll be chatting away to people all over the world!



From the file menu you can access more PD software than you could shake a floppy at, and all for free!

HOW TO SAVE MONEY

1. Only use the MODEM at BT's cheap rate. The cheap rate operates from 1pm to 6am during weekdays, and at weekend.
2. If BT have any special offers, for example country-wide local rates on Sunday evenings, make use of them – even if it means postponing your session.
3. Buy the fastest modem you can afford. A 1200 baud modem will take at least twice as long to download a file as a 2400 baud modem and so on. It won't take long for a faster modem to pay for itself. Make sure 2400 is the very minimum your modem will handle – any slower is a waste of money.

4a. Always prepare your mail messages in advance. By using the upward ASCII list option of most comms software, you'll save valuable time which would be wasted writing on-line.

4b. Use an Off-line Mail Reader, such as AQUIK. This will bundle up all your mail, download it to you in archived format, and then allow you to view and add replies later, when you are not on-line. The next time you log in, you simply upload a file containing the replies. This can save a considerable amount of time.

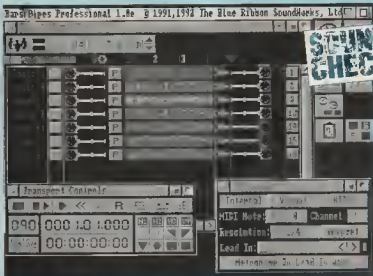
5. Use archives whenever possible. Programs such as LHAs, arcs and .zod will squash data, thus saving time and money when you are uploading or downloading files.

6. Use someone else's telephone! If you are a student at college, make enquiries about getting access to the JANET system – there is a very large PD software library available for downloading.

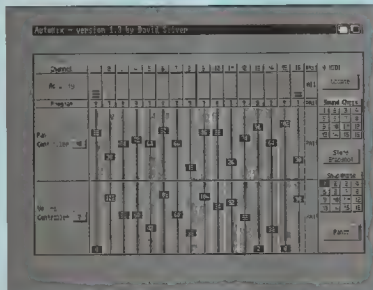
NEXT MONTH

As the comms world continues to expand, next month we'll keep you up to date on the exciting new developments.

Next month we'll be back with another on-line look at a specific BBS. Our experts will voice their opinions on the best around, giving you the power to choose.



Before you start recording on tape, make sure everything is how you want it at the sequencing stage, with all the relative volumes set correctly. In an ideal world, you shouldn't need to touch the mixing controls on your tape machine.



Even if you have the luxury of MIDI-controlled mixing in your sequencer, you'll still need a real mixer to combine your samples and MIDI-generated sounds.

A MASS OF FX

In the October issue's Sound Check, I mentioned (in... Strangely enough, I can't remember exactly across a sampler that can put reverb on a sample. What should turn up in the post, but a copy of AMAS 2 from Microdeal (Tel: 0726 58020), which in fact can put reverb on a sample, so there.

Talking of Microdeal: they've got what could be a sampler's dream come true, due to hit the streets very soon. Clearly will finally bring the Amiga out of the doldrums of 8 bit sampling, elevating it to CD-quality professional standard 16-bit recording! So if, like me, you were disappointed by Commodore's refusal to update the Amiga's sound chip in their new machines, fret no more! We'll have a review of this potentially awesome piece of hardware in the next issue. Can you wait a whole month? I'm not sure, can't.

SOUND CHECK

It's one thing to create an audio masterpiece on your Amiga, but what happens when you want it played to someone outside your circle of Amiga-owning mates? Tony Horgan suggests some techniques to help you get the best out of recording on a budget.

JUST

GET IT TAPED

If you've ever tried recording music from your Amiga, you were probably rather disappointed with the results. Getting a soundtrack onto tape from the computer is simple enough - just plug a couple of phono leads from the audio-outs of the Amiga to the CD input on your hi-fi, select CD and press record on the tape. However, once you play the tape back again, two problems will unfortunately become apparent.

First of all, half the sounds are panned 100% to the right, and the others 100% to the left. This isn't too much of a problem usually, but try listening through headphones and you'll have a pair of very sore lugholes. The second problem is the overall sound quality. Analogue recording always introduces some degree of background noise, and in this case it's even more noticeable than usual, because of a poor signal-to-noise ratio. Just as an optimum input volume is essential for good sampling, the same is true for recording to tape.

The Amiga's output is fairly quiet. If you record straight from the Amiga onto tape, the volume level is only about half of what it should be. This means that when you play back your recording you need to turn up the volume more than you would otherwise, and in doing so you also turn up the background noise.

BASS BOOST

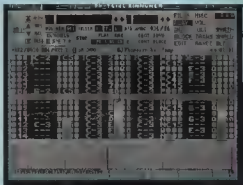
Sorting out these two problems should be your initial concern, but without any extra hardware there's not much you can do about either of them. However, even if you're on a tight budget, there are a number of options open. The cheapest is to get a Sound Enhancer which will boost your Amiga's output, and give you control over the treble and bass levels. It won't solve your stereo panning troubles, though.

If you want to go one better you could invest in a simple DJ mixer. Tandy do a wide range of these, from the most basic no-nuts models, to those with graphic equalizers, pan pots, VU meters and cross-latch sliders. Around £60 to £80 should get you a small console with stereo panners, and enough inputs for a modest sampling and MIDI set



If your track needs some variety, try removing it by dragging out control handles, shrinking it down and building it up again.

For more spontaneous recording, use MED's a track-log'ing features controlled from the numeric keypad.



FOR THE RECORD

up. Remember, you'll still have to record on your hi-fi tape deck though.

For the more ambitious, there's the lure of the four-track cassette recorder. These start at around £200 for the most basic models, such as the Tascam Porta 03. For that you can expect to record from two sources (the Amiga counts as two, because of the two outputs), and pan them across the stereo image. You can then do the same on the two remaining tracks. For another £50 or so, you can hope for more inputs and a better mixing section with bass and treble equalization (EQ). Something like the Festex X-26 will do very nicely. If you're running Amiga samples and stereo MIDI music simultaneously, you'll have to go for one with at least four inputs.

SLIGHTLY RIPPLED...

Before you start messing around with the EQ controls, take a little time to get your samples EQed as best as possible from within your sample editor or MED. The idea is to keep everything as clear as possible at every stage. Once you're happy that you've got the best clarity from the Amiga and of things, hook it all up through your recording set-up.

We'll presume the relative levels of all the sounds coming from your MIDI instrument have already been set in the sequencer. Plug your key board into the mixer section and adjust the faders so that there's the right balance between samples and MIDI sounds. While we're in the mixer, adjust the panning of the two Amiga channels to about 20% on either side. That way you'll keep some of the width, whilst making it comfortable for headphones listeners.

It's odds on that the samples will still need a bit of treble EQ, so now's the time to give them a little boost in the mixer. Play the tune, and make any other adjustments that seem necessary. Once you're happy you can go on with recording it.

WITH A FLAT UNDERSIDE

Choice of tape is very important. There are loads to choose from, and they all have different frequency responses. Some tapes tend to

emphasize the bass, but muffle the treble. Others tend to veer in the opposite direction. The same can be said for mixers and tape decks, so it's just a matter of experimentation. For example, I find that TDK MA 60 tapes give the best results from my X-26 four-track, although even that needs a bit of a bass boost.

Before recording for real, make a short test recording at the end of the tape. Even though your VU meters are telling you the volume is perfect and the EQ sounds just right, after recording you may find that some of the treble has been lost or the signal was actually a bit too loud, which would cause it to distort on the tape. By making a brief test take at the end of the tape, you keep the start of the tape fresh for the main recording and get some idea of the characteristics of the tape you're using. Once you're happy with your mixer and EQ settings, simply wind back to the start and begin recording.

If you're recording onto a four-track, record first onto track four, with a metronome count-in for a few bars at the start. You can then record an overdub of Amiga samples onto track three, doubling your available sample channels to eight. Synchronise the overdub by listening to the metronome click on track four, whilst making fine adjustments to the tempo on your sequencer to bring them together. You can then record (bounce) tracks three and four over to one and two, merging the stereo signal slightly on the way. You'll then be able to play the results through any conventional tape deck.

HIT THE DECKS

It's best to have as many extra tape decks (and speaker sets) as you can lay your hands on. Once you've made your recording, you can then try it out on a variety of systems to see how it came out. Set all the graphic equalizer controls to the centre when you're listening to your tape. A good recording shouldn't need any adjustment of the graphic equalizer.

So what happens if it all comes out in a mess? Well, it depends what has gone wrong. If it's too limpy, go back and record it again, with the treble

down and perhaps a bit more bass. If it sounds buzzy and distorted, either turn down the bass or the main volume control, and re-record.

Not to be confused are the volumes of bass and treble sounds (kicks and high hats for example), and the amounts of bass and treble EQ. For example, merely pushing the bass up won't emphasise the bass drum particularly well. The low frequencies present in the other sounds in the mix will also be amplified, and although the bass drum will have a bit more weight, the balance of the mix will have been thrown out. Instead, go back to your sequencer, and amplify the drum from there. With high hats, it's often a good idea to get their level right by turning them down a bit, then boosting them up again with EQ. Be careful not to turn them down too much, though, or you'll lose definition in the sound.

Even if your recording was spot on, you might still find your final mix is rather mushy. One reason for this could be excessive use of reverb or other effects. Some reverb effects can give your 'holly' if used on the wrong sounds (bass lines for example), which leads to a build up of background hiss. Another reason could just be a bad selection of sounds. It's no good having loads of synth voices that all occupy the same area of the audio spectrum, because they'll all merge into one another. Try to use sounds with different textures, that work on different levels. That way you should still be able to hear everything in the final mix.

MIXING ON THE FLY

After listening to your recording a few times, you might feel it could do with a bit more zest. It so, try re-recording it with some improvised reverb via the mixer controls. Use the faders to ramp up the reverb, or maybe the chorus, or even strip it all down to a single sound right in the middle of the track. You can then bring everything else back in gradually, building it back up to another climax. This can highlight each part of the mix, and revitalise the whole piece. If you're using MED, have a go at logging the tracks on and off with the numeric keypad. And don't forget effects processing, which was covered in the October '92 issue. ■

Amiga New! New two disk mag. Games - Art - Programming - Music samples - Reviews only £2.50 including p&p. Asgard Software, 20 Langdale Drive, Flenshaw, Wakefield, West Yorkshire.

from shops or by mail order from software houses.

[illegible]

NEXT MONTH

LIAR'S CORNER

Okay, so we lied (again). It was a hoax. You didn't really think we'd stop including a Next Month page in the magazine, did you? What fools you are. There's nothing we like better than making things up on the sly of the moment and telling outrageous lies about how next month's issue is going to be the best yet. But, as part of our new year resolutions, we've promised not to tell any more fibs, so here's what you'll get for your £3.95 in the scintillating, sexy, sorrowful February issue of the world's best Amiga mag.

AMIGA WORKSHOP GETS REVAMP

Yes, those good old Blues Pages are no more. We've already changed the name, and this issue we change the content. From now on, Amiga Workshop will be crammed full of step-by-step tutorials, guides and projects, each one designed to help you get the most out of your Amiga. In addition, there will be specific columns aimed at programmers, musicians, comms users, D-Paint artists and more besides. As well as all that lot, there'll also be regulars such as Backchat, Bookshelf, Points of View and Q&A.

PLUS! FREE 32-PAGE VIDEO SPECIAL

Everyone's got access to a video camera these days, so we've commissioned an extra special 32-page guide detailing how an Amiga can help spruce up your dull and dreary home videos. From camera reviews and techniques to perfects, digitisers and special effects, we'll show you how to transform your family videos into Hollywood-style extravaganzas.

GET SERIOUS

And if it's detailed reviews of all the latest productivity software you're after, then Get Serious is your one-stop review section, detailing all the new releases. Next month, we'll also have a huge educational round-up, as well as an update on the A1200 compatibility problem.

GVP'S PHONE PAK

The dawn of a new era in telecommunications. At least, that's what Silica GVP's distributors in the U.K. are claiming it is. This new combination of hardware and software packages will turn your phone-line into a galactic network hub with security accessed voice-mail and other complicated things, which will only be explained here, next month. If you want to tune into the telecommunication's revolution, then this is the place to start.

GAMES GAMES GAMES

Our games section is going to get a new look el paint next month. New sections will be added, new columns introduced, and a bigger hints and tips section begun. There will also be a whole host of top games up for review, as well as the start of a brand-new in-depth player's guide to *Street Fighter 2*. In *The Sim* finally makes its debut, too – the column that speaks out against poor quality software. Law suits here we come! And as if that wasn't enough, we'll also be taking a look at some of the hot games destined to make an appearance on your Amiga sometime soon.

PLUS! 2 WHITE HOT DISKS

Yes, we've done it again. With playable demos of Electronic Arts' *Desert Strike* and Team 17's *Body Blows* set to adorn our games disk, we've also lined up a really fantastic utility worth more than £70. Where else can you find such outstanding value-for-money Amiga disks?

AMIGA PROFILES

If you liked our interview with Tobias Richter this issue, stand by for more of the same in the months to come, as we take a look at some of the best work currently being produced on the Amiga.

Contents subject to change without notice

CU AMIGA

FEBRUARY ISSUE ON SALE 26TH JANUARY 1993

SHAKING THE FOUNDATIONS

Public domain is a vital and thriving part of the Amiga scene, yet there are rumblings afoot which threaten its very foundations. Mat Broomfield gets out his geiger counter to find out what's afoot.

Q&A

Question: What do communism and public domain software have in common? **Answer:** They're both great concepts which never seem to work properly in practice!

The public domain circuit serves many purposes, but from the user's point of view, there is one main advantage to the system—it's a good way of legally acquiring software on the cheap or for nothing. But how many of us spare a thought for the program's authors? What's in it for them?

WHY DO IT?

Perhaps it would be better if we started by looking at some of the reasons that people spend ages working on a program only to give it to anyone who can spare a disk. So far as I can see, there are five main reasons:

1. The program is not of a sufficiently high standard to sell commercially.
2. The program has no commercial audience (either because it's too obscure, too small or has already been done better by someone else).
3. The programmer can't be bothered with the hassle of a commercial release.
4. This program wouldn't survive the copyright laws if released for money.
5. The programmer is generally good-hearted and does it for the benefit of his fellow man.

I'm going to concentrate on the second point. The PD market is swash with well-written, nicely presented programs which are just too small and obscure to sell. Take a program that converts HAM screens into extra halftone ones. The program may work wonderfully, and look superb, but who on earth is going to pay good money for something so specific? The programmer's answer to that dilemma is to place his program into the public domain as a shareware offering.

This means that anyone can copy the program freely, but if they use it regularly they're supposed to send an amount of money to the programmer both as a form of gratitude, and as an incentive for him to continue working. Of course, this blatant flaw in this plan is that the majority of people are reluctant to pay for something if they're not forced to.

GETTING THEIR DUES

For this reason, certain PD companies developed the idea of Licenceware. Under this scheme, the user has to pay the fee before they can get hold of the program. Now, some might argue that by charging for the programs many people lose the incentive to try them out and thus their horizons are narrowed. Furthermore, that Licenceware is just another name for commercial software. This is true to a certain extent, but on the other hand Licenceware fees are usually only a fraction of the cost of commercial software and even at only a pound or so per disk (for PD) very few people mind continually buying everything that takes their fancy.

HYPOCRISY?

When Licenceware was first started many of the PD companies who didn't cater for such a service raised their arms in indignation claiming that the scheme was depriving the public of their 'right' to free software. I don't hear many people screaming about the programmers' right to be paid for his work.

Of course, now it's a different story, almost all PD companies sell Licenceware, and some even deal exclusively with this kind of software.

'So what's the problem?' I hear you say. Well, in the same way that Licenceware seemed to be a departure from the PD ideal, there are now companies who have taken the concept beyond its original motivation, which was to ensure that the author of a program received his dues.

A number of companies are now selling Licenceware at double the price quoted by the software authors, taking 50% of the price for themselves.

Not all companies who do this are using the extra money to line their own pockets. Some are re-investing the money into printing commercial manuals for the products, and ensuring thorough advertising that the widest possible audience gets to find out about them. Unfortunately, some companies are just money-grubbing scoundrels who are growing rich at the expense of programmers too poor or distant to take appropriate legal action.

IS IT THE END?

Yet again, the whole foundations are being undermined, but this time certain companies are emerging as universally disliked villains, disliked, at least, by the other PD companies and their programmer victims.

The whole issue is an emotive and complex one, with many murky areas to ensure the unwary. For example, if PD was only ever supposed to be a non-profit making idea, how is it that some companies have become so big that they require teams of full-time staff? You could argue that the PD distributors have to be able to survive whilst they're distributing, and this is an equally valid point. By the same token, you could further add that the more staff they have, the more software can be distributed, and the more the programmers can be encouraged, and this is also true.

I don't pretend to know all the answers. All I know is that there are a few companies out there who are blatantly profiteering from the hard work of well-intentioned programmers, and if it doesn't stop perhaps these programmers may decide that the Licenceware idea is an even worse one than shareware and start seeking commercial distribution of their programs, or worse still cease programming or distributing at all together.

Keep your eyes open, and comment with your chequebooks. You know what the going rate is!



Now we're not ones to say Mat doesn't look like he's lost to the marriage, but we think this picture speaks for itself.

VISION, SOUND AND ANIMATION
FROM ROMBO
THE WORLD'S BIGGEST AND BEST



Real Time Digital Effects

OVERVIEW

MEGAMIX master is a high specification, low cost digital effects cartridge that plugs into your printer port. Special stereo effects such as echo can be added in real time. You will find Megamix Master's performance and ease of use unmatched by any rival. Just plug it in and go...

Some of the Features include:

- *Thru port for printer or digitiser
- *Fully multi-tasking
- *Integrated 3.5mm jack plug and lead
- *3D Animated icons
- *Compatible with Workbench 2.0
- *Bois Mono and Stereo sampling

Real Time Digital Effects Include:

- ECHO-Adds echo to incoming sound.
- PHASFR-Adds phase space age phase shift.
- BYNTH-Adds user definable effects.
- DIRECT-Plays incoming sound direct
- VIBRATO-Rapidly varies frequency
- STEREO ECHO-Adds digital delay between L & R speakers

Other Menu's include:

- RENDX (with many sampling features)
- EDIT (for sample manipulation)
- DISK (for saving and loading etc).

Workbench 2.08 Compatible

£39.95 Inc.

JUST LOOK AT THE SPEC.

4096 Colour Images

OVERVIEW

Vid-Amiga 12 is the ultimate low cost colour digitiser for Amiga. There are no filters and no separate RGB splitter. Colour images can be captured in less than a second, mono images are grabbed in real time. Fully compatible with any video source.

Some of the features include:

- *Hard tasking software
- *Advanced error diffusion stippling.
- *Cut and Paste with masking.
- *Capture into a user definable window.
- *Load and save IFF R,GM and ANIM files
- *Grab frames triggered on a X or Y axis
- *Multi frame store with animated playback.
- *Composits or S-Video input.

Display in the following resolutions:

PAL	NTSC
320 x 256	320 x 200
320 x 512	320 x 400
640 x 256	640 x 200
640 x 512	640 x 400

Supports several screen modes:

- *4096 HAM mode.
- *88 ERM mode.
- *32 colours.
- *16 colours.
- *16/8/4/2 shade mode
- *362008 HAM-E mode.
- *256 colour ERM mode.
- *OverScan/Interlace/Hi-Res

Image Processing and Enhancement:
Sharpen/Smooth/Negative/Quantize
Thresholding/Solotization/Mosaic
Edge Detection/Brush selected area.

Workbench 2.08 Compatible

COLOUR IMAGE CAPTURE FOR ONLY

£99.95 Inc.

Rombo Ltd., Kirkton Campus, Livingston
SCOTLAND EN54 7AZ

Tel: (44) 0506-414631 Fax: (44) 0506-414634

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Professional Animation with Optional Image Capture

OVERVIEW

Take 2, as used in 'Hells Cartoon Club' is the ultimate multi-level animation package. Drawing up to 4 levels of animation and 4 levels of sound images are drawn within your favourite art package then loaded into Take 2 as IFF files. If you own Vid-Amiga you can digitise your drawings from within Take 2. We believe the much easier to draw with a pencil than with a mouse.

Some of the features include:

- *Compatibility with all Amigas.
- *Supports 2, 4, 8, 16 and HAM colour.
- *Loads or saves IFF or ANIM files.
- *Traditional animators' dope sheet.
- *Play back up to 25 frames per second
- *Dubbing or simulated on air klu

and lots more !!!

Applications:

- *Traditional animation.
- *Storyboards
- *Product presentation.
- *Line layout
- *Stop frame animation.
- *Cartoon production.
- *Education.
- *3D object animation.
- *Video production.

Workbench 2.08 Compatible

£49.95 Inc.

AS SEEN ON TV

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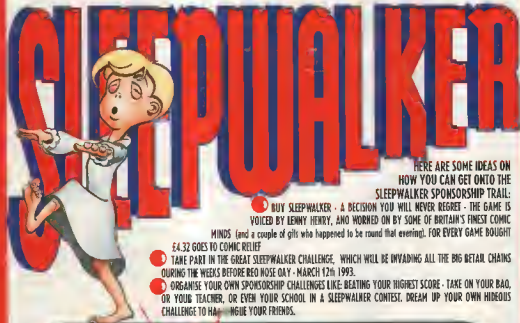
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GET READY 4 THE INVASION

PLAY THE GAME FOR...

COMIC RELIEF HAVE AT LAST GRASPED THE FACT THAT ALL THE PEOPLE WORTH COMMUNICATING WITH THESE DAYS BUY COMPUTER GAMES - AND IT'S A REVELATION WHICH THEY HOPE IS GOING TO MAKE THEM A BLOOMING FORTUNE TO PLOUGH INTO BRILLIANT PROJECTS IN AFRICA AND THE UK.

COMIC RELIEF



HERE ARE SOME IDEAS ON HOW YOU CAN GET ONTO THE SLEEPWALKER SPONSORSHIP TRAIL:

- 1 BUY SLEEPWALKER - A DECISION YOU WILL NEVER REGRET - THE GAME IS VOICED BY LENNY HENRY, AND WORKED ON BY SOME OF BRITAIN'S FINEST COMIC MINDS (and a couple of girls who happened to be round that evening). FOR EVERY GAME BOUGHT £4.32 GOES TO COMIC RELIEF
- 2 TAKE PART IN THE GREAT SLEEPWALKER CHALLENGE, WHICH WILL BE INVADING ALL THE BIG BETAN CHAINS DURING THE WEEKS BEFORE RED NOSE DAY - MARCH 12th 1993.
- 3 ORGANISE YOUR OWN SPONSORSHIP CHALLENGES LIKE: BEATING YOUR HIGHEST SCORE - TAKE ON YOUR BAO, OR YOUR TEACHER, OR EVEN YOUR SCHOOL IN A SLEEPWALKER CONTEST. DREAM UP YOUR OWN HIDEOUS CHALLENGE TO HAVE TO CONVINCE YOUR FRIENDS.



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